Self Diagnosis Supported model

SERVICE MANUAL

DX-1A CHASSIS

MODEL NAME	REMOTE COMMANDER	DESTINATION	CHASSIS NO.
KV-32XBR450	*RM-Y184*	*US*	*SCC-S47D-A*
KV-32XBR450	*RM-Y184*	*CND*	*SCC-S48D-A*

KV-32XBR450

RM-Y184

TRINITRON® COLOR TELEVISION

SONY®

9-965-898-01

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SPECIFICATIONS

	KV-32HS20 KV-32XBR450	KV-36HS20 KV-36HS20H KV-36XBR450 KV-36XBR450H
Power Requirements	120V, 60Hz	
Number of Inputs/Outputs		
Video [1]	4	
S Video [2]	3	
Y, PB, PR [3]	2	
Audio [4]	6	
Audio Out [5]	2	
Monitor Out	1	
Control-S (in/out)	YES	
Speaker Output (W)	7.5W x 4	
Power Consumption (W)		
In Use (Max)	245W	
In Standby	2W	
Dimensions (W x H x D)		
mm	898 x 678 x 579.5 mm	994 x 754.5 x 622 mm
in	35 3/8 x 26 3/4 x 27 7/8 in	39 9/64 x 29 45/64 x 24 1/2 in
Mass		
kg	84 kg	108 kg
lbs	185 lbs.	238 lbs.

1) 1 Vp-p 75 ohms unbalanced, sync negative
2) Y: 1 Vp-p 75 ohms unbalanced, sync negative
   C: 0.286 Vp-p (Burst signal), 75 ohms
3) Y: 1.0 Vp-p, 75 ohms, sync negative;
   PB: 0.7 Vp-p, 75 ohms
   PR: Vp-p, 75 ohms
4) 500 mVrms (100% modulation), Impedance: 47 kilohms
5) More than 408 mVrms at the maximum volume setting (variable)
   More than 408 mVrms (fix)

Television system

American TV standard, NTSC

Channel coverage

VHF: 2-13/ VHF: 14-69/ CATV: 1-125

Picture tube

FD Trinitron® tube

Visible screen size

32-inch picture measured diagonally (KV-32HS20/32XBR450 ONLY)
36-inch picture measured diagonally (All Except KV-32HS20/32XBR450)

Actual screen size

34-inch measured diagonally (KV-32HS20/32XBR450 ONLY)
38-inch measured diagonally (All Except KV-32HS20/32XBR450)

Antenna

75 ohm external terminal for VHF/UHF

Supplied Accessories

Remote Commander RM-Y183 (KV-32HS20/36HS20/36HS20H ONLY)
Remote Commander RM-Y184 (KV-32XBR450/36XBR450/36XBR450H ONLY)
Two Size AA (R6) Batteries

Optional Assessories

Connecting cables: RK-74A, VMC-810S/820/830HGS, VMC-720M, VMC-810S/820S, YC-15V/30V, YC-15/30HG, RKG69HG, RKC-515HG
U/V mixer: EAC-66
TV Stand: SU-32HS2 (KV-32HS20 ONLY)
SU-36HS2 (KV-36HS20/36HS20H ONLY)
SU-32XBR45 (KV-32XBR450 ONLY)
SU-36XBR45 (KV-36XBR450/36XBR450H ONLY)

Design and specifications are subject to change without notice.

XBR
TruSurround™ by SRS ®

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WARNINGS AND CAUTIONS

CAUTION

Short circuit the anode of the picture tube and the anode cap to the metal chassis, crt shield, or carbon painted on the crt, after removing the anode.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the ac power line.

⚠ SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and ⚠ mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with sony parts whose part numbers appear as shown in this manual or in supplements published by sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.

ATTENTION!!

Apres avoir deconnecte le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au chassis metallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

Afin d'eviter tout risque d'electrocution provenant d'un châssis sous tension, un transformateur d'isolement doit etre utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.

⚠ ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifies par une trame et par une marque ⚠ sur les schemas de principe, les vues explosees et les listes de pieces sont d'une importance critique pour la securite du fonctionnement. Ne les remplacer que par des composants sony dont le numero de piece est indique dans le present manuel ou dans des supplements publies par sony. Les reglages de circuit dont l'importance est critique pour la securite du fonctionnement sont identifies dans le present manuel. Suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.

2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.

3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.

4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.

5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.

7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.

8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

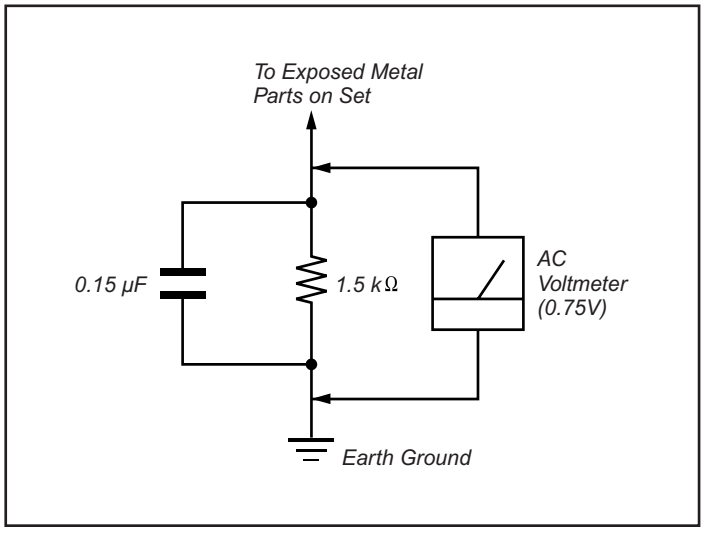


Figure A. Using an AC voltmeter to check AC leakage.

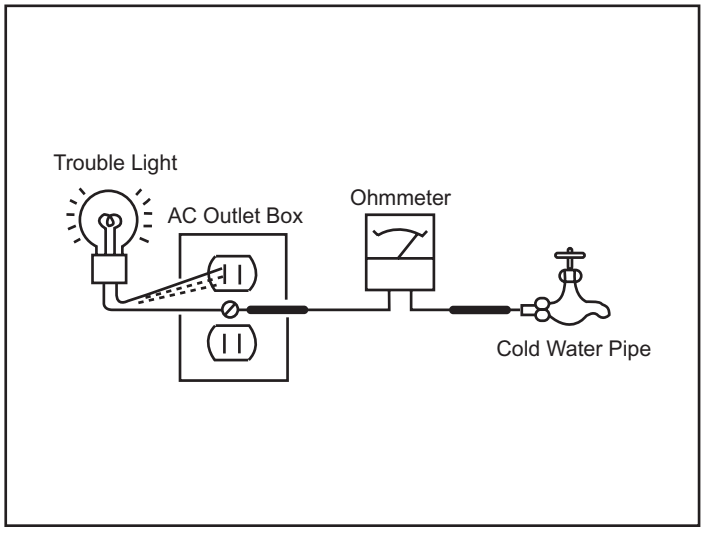


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION

Self Diagnosis Supported model

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/STEREO LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/STEREO LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

Diagnostic Test Indicators

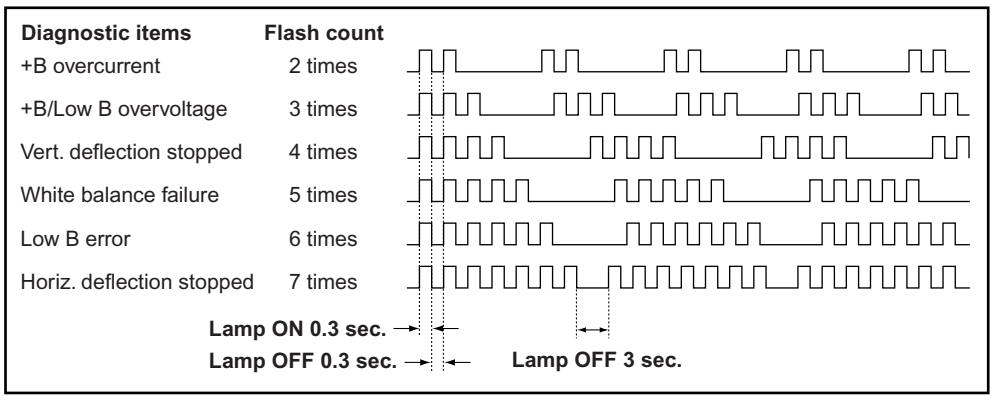
When an error occurs, the STANDBY/STEREO LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

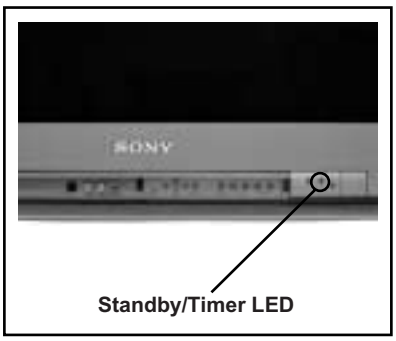
Results for all of the following diagnostic items are displayed on screen. If the screen displays a "0", and error has occurred.

Diagnostic Item	No. of times STANDBY/ STEREO lamp flashes	Display Result	Probable Cause Location	Detected Symptoms
Power does not turn on	Does not light		• Power cord is not plugged in. • Fuse is burned out (F5501)	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
+B overcurrent (OCP) (see Note 1)	2 times	2:0 or 2:1	• H.OUT (Q5030) is shorted. (D Board) • +B PWM (Q5003) is shorted (D Board) • IC9001, IC9002, IC9003 is shorted (C Board)	• Power does not come on. • Load on power line is shorted.
Low B overvoltage (OVP)	3 times	3:0 or 3:1	• IC6505 is faulty. (D Board)	• Has entered standby mode.
Vertical deflection stopped	4 times	4:0 or 4:1	• ± 15V is not supplied. (D Board) • IC5004 is faulty. (D Board)	• Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
White balance failure (not balanced)	5 times	5:0 or 5:1	• Video OUT (IC9001-IC9003) is faulty. (C Board) • CRT drive (IC201) is faulty. (A Board) • G2 is improperly adjusted. (see Note 2)	• No raster is generated. • CRT cathode current detection reference pulse output is small.
LOW B OCP/OVP (overcurrent/overvoltage) (see Note 3)	6 times	6:0 or 6:1	• +5 line is overloaded. (A, B Boards) • +5 line is shorted. (A, B Boards) • IC6007 is faulty. (A Board)	• No picture
Horizontal Deflection stopped	7 times	7:0 or 7:1		• No picture

Note 1: If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously. The symptom that is diagnosed first by the microcontroller is displayed on screen.
Note 2: Refer to Screen (G2) Adjustment in Section 3-4 of this manual.
Note 3: If STANDBY/STEREO LED flashes six (6) times, unplug the unit and wait 10 seconds before performing the adjustment

Display of Standby/Timer LED Flash Count





* One flash count is not used for self-diagnostic.

Stopping the Standby/Timer LED Flash

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER LAMP from flashing.

Self-Diagnostic Screen Display

For errors with symptoms such as "power sometimes shuts off" or "screen sometimes goes out" that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

To Bring Up Screen Test

In standby mode, press buttons on the Remote Commander sequentially, in rapid succession, as shown below:

DISPLAY ➡ Channel 5 ➡ Sound volume - ➡ Power ON.

SELF DIAGNOSIS	
2: +B OCP	N/A
3: +B OVP	N/A
4: VSTOP	0
5: AKB	1
101: WDT	24

Numeral "0" means that no fault was detected.

Numeral "1" means a fault was detected one time only.

Handling of Self-Diagnostic Screen Display

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to "0".
Unless the result display is cleared to "0", the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

Clearing the Result Display

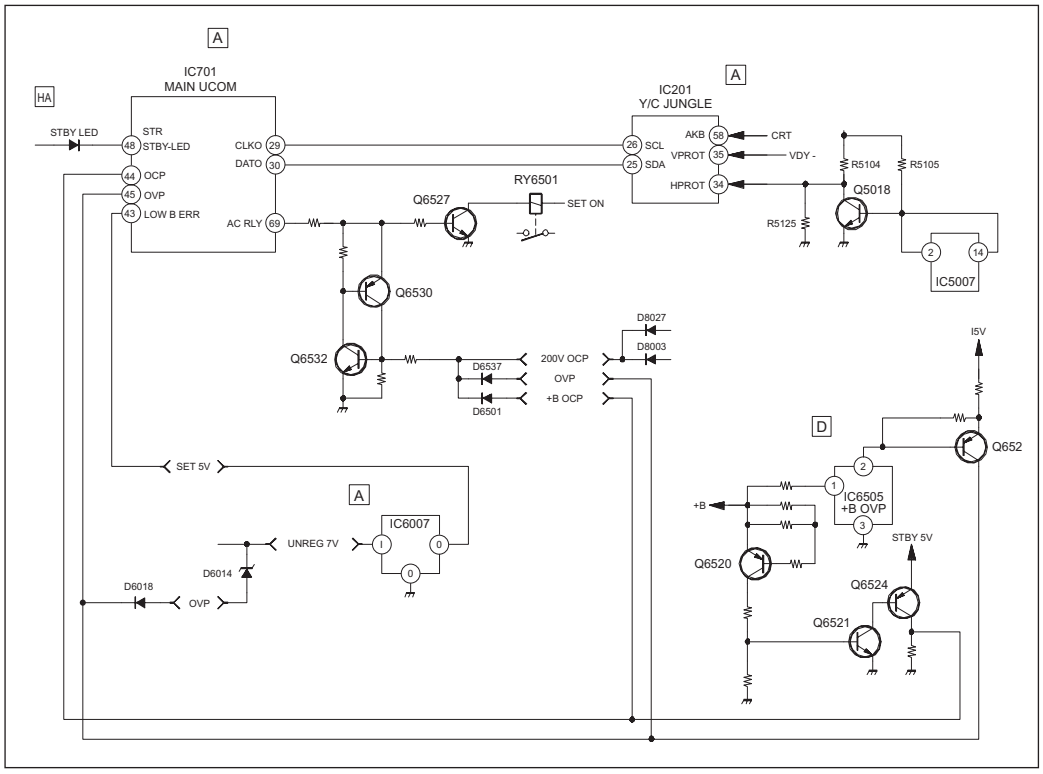
To clear the result display to "0", press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:

Channel 8 ➡ ENTER

Quitting the Self-Diagnostic Screen

To quit the entire self-diagnostic screen, turn off the power switch on the Remote Commander or the main unit.

Self-Diagnostic Circuit



+B overcurrent (OCP)

Occurs when an overcurrent (more than 6A) on the +B (135V) line is detected by R6598/R6591. It will cause Q6520 to turn on and force the AC relay to turn off through Q6532 and Q6530.

+B overvoltage (OVP)

Occurs when 1) overvoltage (more than +140V) on the +B (135V) line is detected by IC6505, or 2) an overvoltage (more than 7.5 V) on the unreg 7V line is detected by D6014. The AC relay will turn off through Q6532 and Q6530.

Vertical Deflection Stopped

Occurs when an absence of the vertical deflection pulse is detected by IC201. Power supply will shut down when waveform interval exceeds 2 seconds.

White Balance Failure

If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC201. TV will stay on, but there will be no picture.

*(Refers to the RGB levels of the AKB detection Ref pulse that detects 1K).

Low B Error

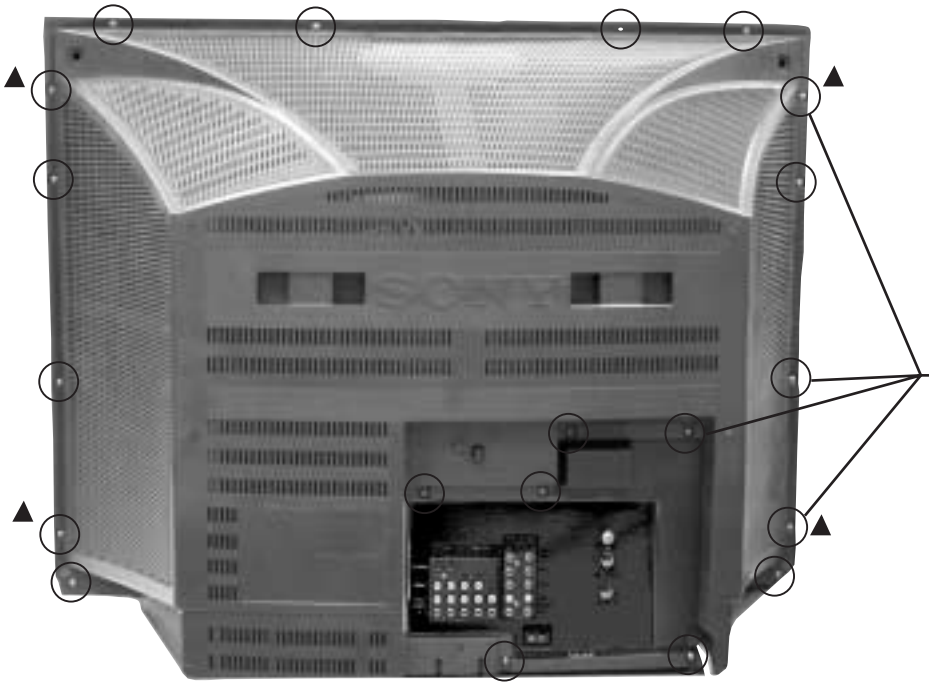
Occurs when set 5V is out.

Horizontal Deflection Stopped

Occurs when either: 1) a +B overcurrent is detected (IC5007), or 2) overheating is detected (Thermistor TH5002).

SECTION 1: DISASSEMBLY

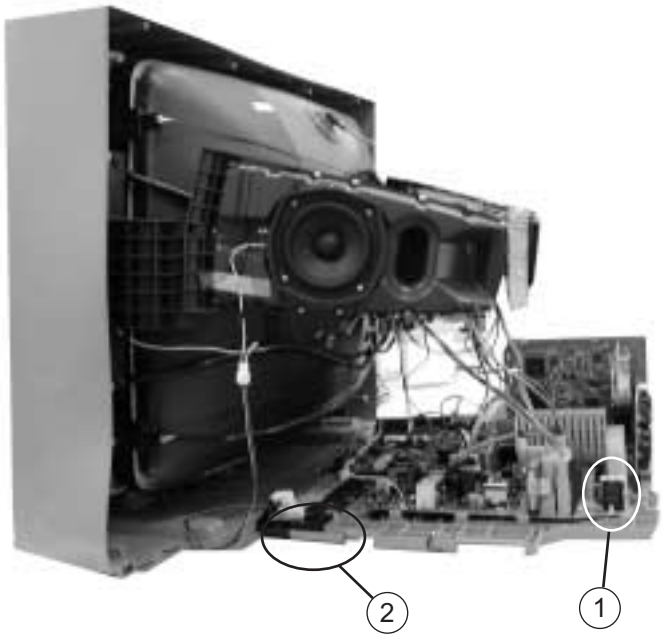
1-1. REAR COVER REMOVAL



Remove +BVTP 4 x 16 screws from areas indicated with a circle.

▲ Located in:
KV-36HS20/36HS20H/
36XBR450/36XBR450H Only

1-2. CHASSIS ASSEMBLY REMOVAL



(1) **CAUTION!** - Heat sink on IC5004 is -15V. Care must be taken not to allow heat sink to touch any other components.

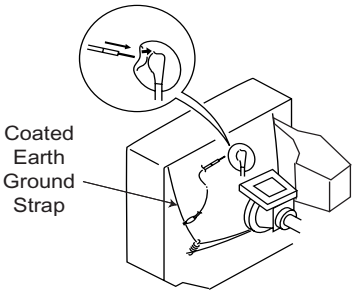
(2) Lift lever up on the right and left sides of the chassis bracket and gently pull the chassis assembly away from the bezel.

1-3. SERVICE POSITION

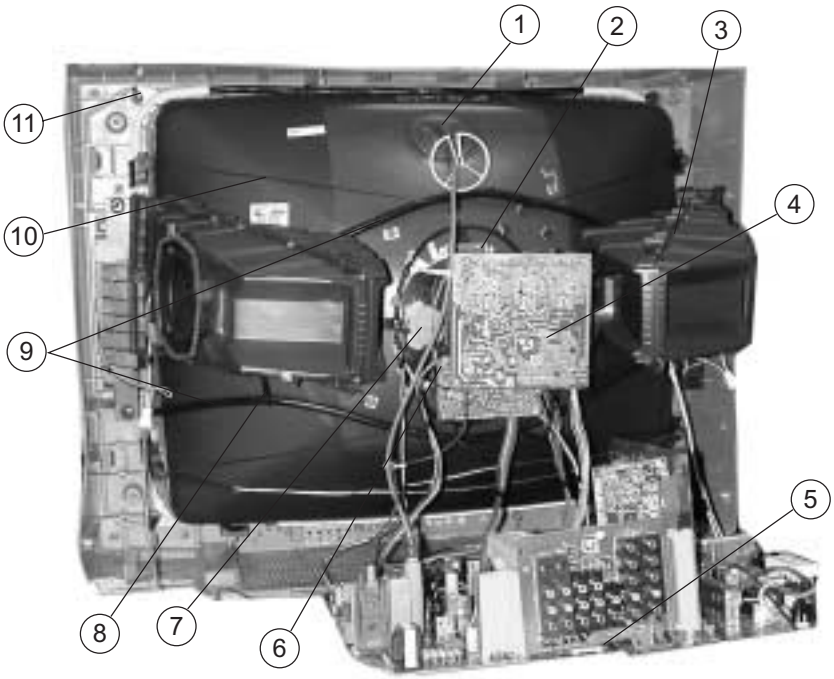
(1) Pull up and rotate both the A and D boards in order to service the unit.

1-4. PICTURE TUBE REMOVAL

WARNING: BEFORE REMOVING THE ANODE CAP
High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.



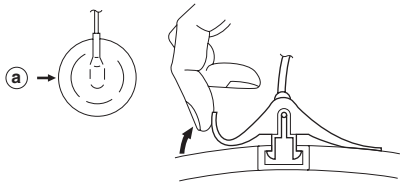
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the Speaker Assemblies.
4. Remove the C Board from the CRT.
5. Remove the chassis assembly.
6. Loosen the neck assembly fixing screw and remove.
7. Loosen the deflection yoke fixing screw and remove.
8. Place the set with the CRT face down on a cushion and remove the degaussing coil holders.
9. Remove the degaussing coils.
10. Remove the CRT grounding strap and spring tension devices.
11. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT [Take care not to handle the CRT by the neck].



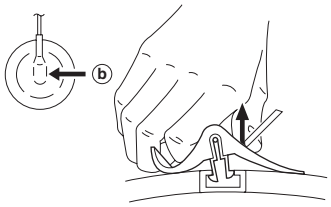
ANODE CAP REMOVAL PROCEDURE

WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. After removing the anode cap, short circuit to either the metal chassis, CRT shield, or carbon painted on the CRT.

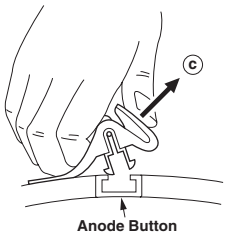
REMOVAL PROCEDURES



Turn up one side of the rubber cap inthe direction indicated by arrow ⓐ .



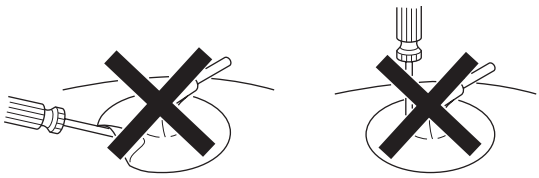
Use your thumb to pull the rubber cap firmly in the direction indicated by arrow ⓑ.



When one side of the rubber cap separates from the anode button, the anode cap can be removed by turning the rubber cap and pulling it in the direction of arrow ⓒ.

HOW TO HANDLE AN ANODE CAP

1. Do not use sharp objects which may cause damage to the surface of the anode cap.
2. To avoid damaging the anode cap, do not squeeze the rubber covering too hard. A material fitting called a shatter-hook terminalis built into the rubber.
3. Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



SECTION 2: SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch should be set as follows unless otherwise noted:

VIDEO MODE: STANDARD (RESET)

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)
5. White Balance

Test Equipment Required:

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter

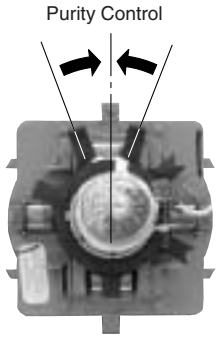
2-1. BEAM LANDING

Preparation:

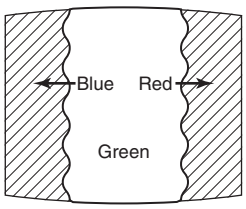
- Input a white pattern signal.
- Face the picture tube in an East or West direction to reduce the influence of geomagnetism.

NOTE: Do not use the hand degausser; it magnetizes the CRT .

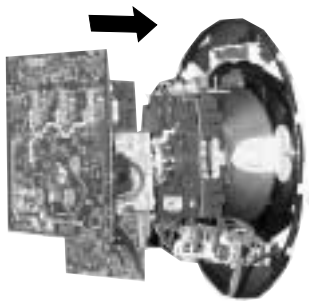
1. Input white pattern from pattern generator. Set the PICTURE control to maximum, and the BRIGTNESS control to standard.
2. Perform Focus, G2 and White Balance adjustments.
3. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:



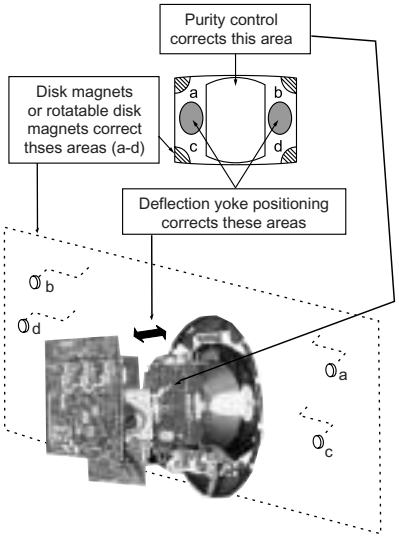
4. Input a green pattern from the pattern generator.
5. Move the deflection yoke backwards, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



6. Move the deflection yoke forward, and adjust so that the entire screen becomes green.



7. Switch over the raster signal to red and blue and confirm the condition.
8. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
9. If landing at the corner is not right, adjust it by using the disk magnets.



2-2. V-PIN AND V-CEN ADJUSTMENT

Preparation:
- Input a cross hatch pattern signal.
- Face the picture tube in a North/South direction and correct rotation.
- Set Video Mode to: Satndard (Reset)

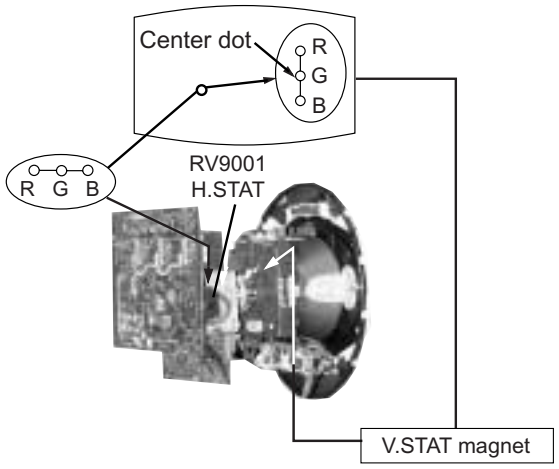
1. Adjust service mode CXA2150D-1 04 VCEN so that the top pin and and bottom pin are symmetrical from top to bottom.
2. Adjust service mode CXA2150D-1 05 VPIN so that the top pin and and bottom pin are symmetrical from top to bottom.
3. Lines should be straight from left to right. Check landing for side effect.

2-3. CONVERGENGE

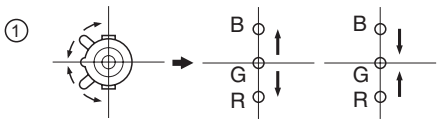
Preparation:
- Set the CONTRAST and BRIGHTNESS control to 50%
- Input dot pattern signal.

2-3.1. VERTICAL AND HORIZONTAL STATIC CONVERGENCE

1. Disconnect the dynamic convergence before adjusting static convergence (CN5510), except for minor touch-up.
2. Adjust H.STAT convergence, RV9001, to converge red, green, and blue dots in the center of the screen.
3. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen.



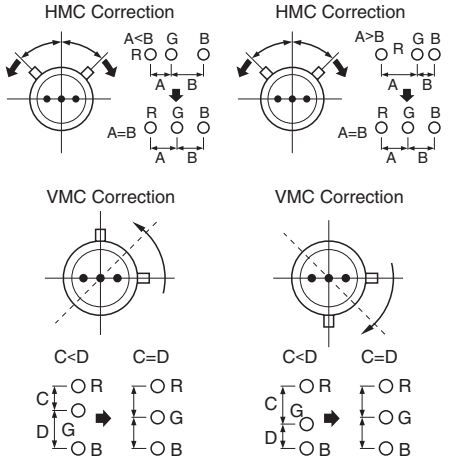
4. Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



2-3.2. OPERATION OF BMC (HEXAPOLE) MAGNET

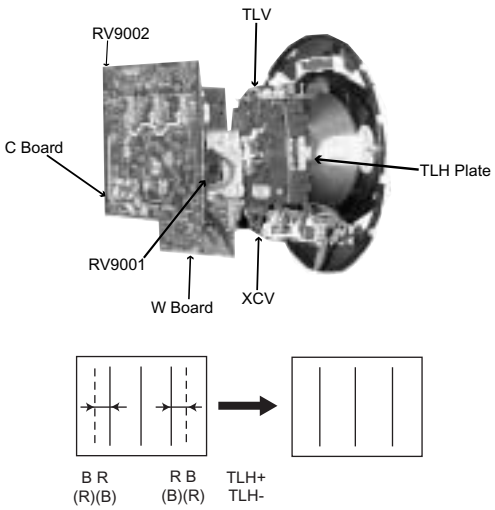
The respective dot positions resulting from moving each magnet interact. So, perform the following adjustments while tracking.

1. Use the V.STAT tabs to adjust the red, green and blue dots so that they line up at the center of the screen (move the dots in a horizontal direction).



2-3.3. TLH PLATE ADJUSTMENT

Preparation:
- Input a cross hatch pattern signal.
- Adjust unbalanced horizontal convergence of red and blue dots by adjusting the TLH plate on the deflection yoke.



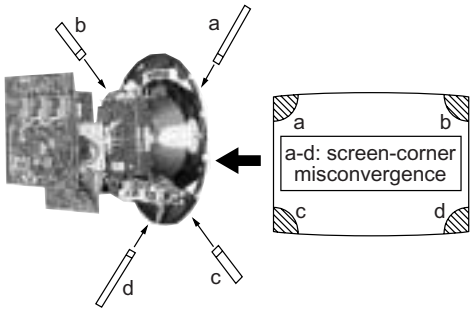
1. Adjust XCV core to balance X axis.
2. Adjust the vertical red and blue convergence with V.TILT (TLV VR).

Note: Perform adjustments while tracking item 1.

2-3.4. SCREEN-CORNER CONVERGENCE

Preparation:
- Input a cross hatch pattern signal.

1. Affix a permalloy assembly corresponding to the misconverged areas:



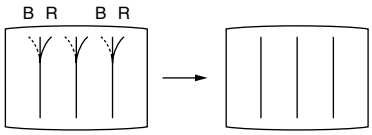
2-3.5. DYNAMIC CONVERGENCE ADJUSTMENTS

Set dynamic convergence using the following service mode adjustment data:

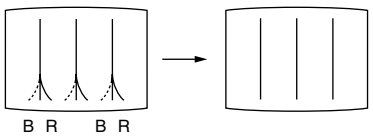
CXA 8070 AP

NO.	Register	Function	Data Length	Initial Data
1	YBWU	VCA9	0-63	31
2	YBWL	VCA10	0-63	31
3	RSAP	DC-AMP1	0-63	31
4	RUBW	VCA5	0-63	31
5	RLBW	VCA6	0-63	31
6	LSAP	DC-AMP2	0-63	31
7	LUBW	VCA10	0-63	31
8	LLBW	VCA2	0-63	31

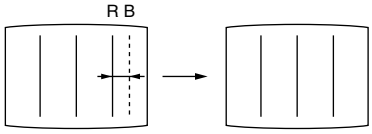
1. YBWU (Upper Y-BOW)



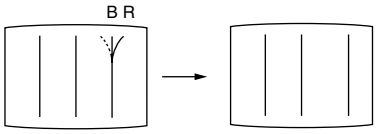
2. YBWL (Bottom BOW)



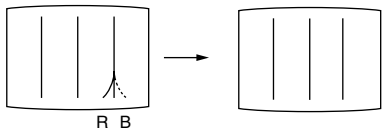
3. RSAP (Right AMP)



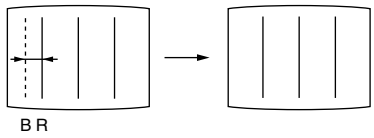
4. RUBW (Right Side Upper C-BOW)



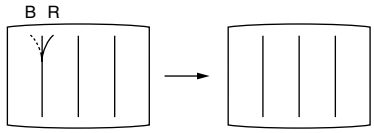
5. RLBW (Right Side Bottom C-BOW)



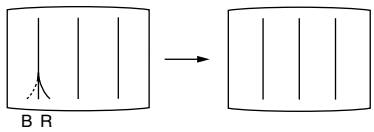
6. LSAP (Left AMP)



7. LUBW (Left Side Upper C-BOW)

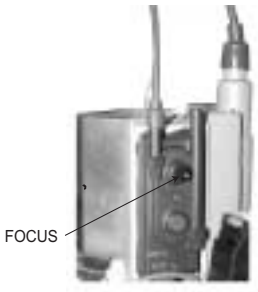


8. LLBW (Left Side Bottom C-BOW)



2-4. FOCUS ADJUSTMENT

1. Input monoscope signal.
2. Set video mode to STANDARD.
3. Adjust focus VR counter-clockwise to confirm that the dot's shape is centered.
4. Confirm center focus with focus VR.



2-5. SCREEN (G2)

1. Input a monoscope pattern (NTSC)
2. Set to service mode and adjust as follows:

CXA 2150P-2

NO.	Disp.	Item	Avg.
0	ALBK	ALL_BLK	0

3. Adjust RV9002 on the C Board so that the voltage on red, green and blue cathodes is 170.0 0.5 V DC.
4. Adjust the hotizontal line at the top of the screen so it is cut off.

Note: Never set ALBK to 1 when external power supply is connected to cathode.

2-6. PICTURE QUALITY ADJUSTMENTS

Preparation:
- Set PRO MODE (Picture: MAX, GAMMA: 0)
- Dynamic-color: Off (=Trinitron: MID).
- Set the service mode to the following:

C2150P-4

NO.	Name	Control Function	Avg. Data
06	UDCL	Dynamic Color: OFF	0
08	UGRAM	GRAMMA	0
15	DCTR	DC-TRAN	0
16	DPIC	DYNAMIC PIC: OFF	0

1. Input signal (480i):
   - Color Bar Video 75IRE (White) 75% modulation 7.5% Set-up
   - Color Bar RF 75IRE (White) 75% modulation 7.5% Set-up

2-6.1. VIDEO INPUT - TWO PICTURE SUB CONTRAST ADJUSTMENT

Preparation:
- Input a Color Bar signal to VIDEO 1 (75 IRE 75%).
- Set picture mode: P&P (PRO MODE).

1. Set to service mode and adjust as follows:

2150P-4

NO.	Name	Control Function	Avg. Data
00	UPIC	PICTURE	63
02	UCOL	COLOR	0

2150P-2

NO.	Name	Control Function	Avg. Data
01	RGBS	R ON	4

INITIAL DATA (IMPORTANT)

2150P-4

NO.	Name	Control Function	Avg. Data
23	SCON	SUB-CONT	9

2103-1

NO.	Name	Control Function	Avg. Data
00	YLEV	Y-OUT	23

2103-2

NO.	Name	Control Function	Avg. Data
00	YLEV	Y-OUT	23

2. Connect oscilloscope to Pin 1 of CN9001 (R.DRV) on the C Board
3. Adjust MAIN (left) side contrast according to service mode fro SCON.

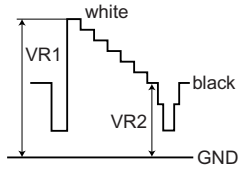
2103-1

NO.	Name	Control Function
02	SCON	SUB-CONT

4. Adjust SUB (right) side contrast according to service mode for SCON.

2103-2

NO.	Name	Control Function
02	SCON	SUB-CONT



32": VR1-VR2 = △VR = 1.92 ± 0.05 Vp-p

36": VR1-VR2 = △VR = 2.00 ± 0.05 Vp-p

5. Write data from steps 3 and 4 above, into memory.

2-6.2. VIDEO INPUT - SUB HUE/SUB COLOR ADJUSTMENT

Preparation:
- Input a Color Bar signal to VIDEO 1 (75 IRE 75%).
- Set picture mode: P&P (PRO MODE).

1. Set to service mode and adjust as follows:

2150P-4

NO.	Name	Control Function	Avg. Data
00	UPIC	PICTURE	63
02	UCOL	COLOR	31

2150P-2

NO.	Name	Control Function	Avg. Data
01	RGBS	R ON	7

2. Connect an oscilloscope to pin 5 of CN9001 (B. DRV) on the C Board.
3. Adjust MAIN (left) side color according to service mode for SCOL.
4. Adjust MAIN (left) side color according to service mode for SHUE.

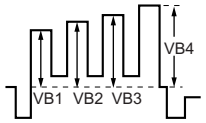
2103-1

NO.	Name	Control Function
03	SCOL	SUB-COL
04	SHUE	SUB-HUE

5. Adjust SUB (right) side color according to service mode for SCOL.
6. Adjust SUB (right) side color according to service mode for SHUE.

2103-2

NO.	Name	Control Function
03	SCOL	SUB-COL
04	SHUE	SUB-HUE



COLOR: VB1 ≤ VB4 (=VB1 + 0~90 MV)

HUE: VB2 ≤ VB3 (=VB2 + 0~90 MV)

(HUE: Adjust data - 2 STEP)

7. Write data into memory.

2-6.3. RF INPUT - TWO PICTURE SUB CONTRAST ADJUSTMENT

Preparation:
- Input a Color Bar signal to RF (75 IRE 75%).
- Set picture mode: P&P (PRO MODE).

1. Set to service mode and adjust as follows:

2150P-4

NO.	Name	Control Function	Avg. Data
00	UPIC	PICTURE	63
02	UCOL	COLOR	0

2150P-2

NO.	Name	Control Function	Avg. Data
01	RGBS	R ON	4

INITIAL DATA (IMPORTANT)

2150P-4

NO.	Name	Control Function	Avg. Data
23	SCON	SUB-CONT	9

2103-1

NO.	Name	Control Function	Avg. Data
00	YLEV	Y-OUT	23

2103-2

NO.	Name	Control Function	Avg. Data
00	YLEV	Y-OUT	23

Note: Use the same average data as 2-6.1, items 3 and 4 after the adjustment

2. Connect an oscilloscope to pin 1 of CN9001 (R. DRV) on the C Board.
3. Adjust MAIN (left) side contrast according to service mode fro SCON.

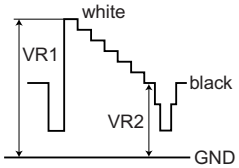
2103-1

NO.	Name	Control Function
02	SCON	SUB-CONT

4. Adjust SUB (right) side contrast according to service mode for SCON.

2103-2

NO.	Name	Control Function
02	SCON	SUB-CONT



32": VR1-VR2 = △VR = 1.92 ± 0.05 Vp-p

36": VR1-VR2 = △VR = 2.00 ± 0.05 Vp-p

5. Write data from steps 3 and 4 above, into memory.

2-6.4. RF INPUT - SUB HUE/SUB COLOR ADJUSTMENT

Preparation:
- Input a Color Bar signal to RF (75 IRE 75%).
- Set picture mode: P&P (PRO MODE).

1. Set to service mode and adjust as follows:

2150P-4

NO.	Name	Control Function	Avg. Data
00	UPIC	PICTURE	63
02	UCOL	COLOR	31

2150P-4

NO.	Name	Control Function	Avg. Data
01	RGBS	R ON	7

INITIAL DATA (IMPORTANT)

2150P-4

NO.	Name	Control Function	Avg. Data
24	CLOF	OFFSET for UCOL	8
25	HUOF	OFFSET for UHUE	4

2103-1

NO.	Name	Control Function	Avg. Data
01	CLEV	CB & CR-OUT	17
20	CBOF	CB-OFFSET	31
21	CROF	CR-OFFSET	31

2103-2

NO.	Name	Control Function	Avg. Data
01	CLEV	CB & CR-OUT	17
20	CBOF	CB-OFFSET	31
21	CROF	CR-OFFSET	31

Note: Use the same average data as 2-6.2, items 3-6 after the adjustment.

2. Connect an oscilloscope to pin 5 of CN9001 (B. DRV) on the C Board.
3. Adjust MAIN (left) side color according to service mode for SCOL.
4. Adjust MAIN (left) side color according to service mode for SHUE.

2103-1

NO.	Name	Control Function
03	SCOL	SUB COLOR
04	SHUE	SUB HUE

5. Adjust SUB (right) side color according to service mode for SCOL.
6. Adjust SUB (right) side color according to service mode for SHUE.

2103-2

NO.	Name	Control Function
03	SCOL	SUB COLOR
04	SHUE	SUB HUE

COLOR: VB1 ≤ VB4 (=VB1 + 0~90 MV)

HUE: VB2 ≤ VB3 (=VB2 + 0~90 MV)

(HUE: Adjust data - 2 STEP)

7. Write data into memory.

2-7. WHITE BALANCE (CRT) AND SUB BRIGHT ADJUSTMENT

Preparation

- Input an all white 480I (15.734 KHz) signal into the VIDEO 1 input terminal to perform the whit balance (highlight, cut-off) adjustments. The parameters to adjust are in the CXA2150P in service mode.

1. Set the following:

   Picture: Full Mode

   Pro Mode

   Color: Center

2. Adjust white balance in the service mode and set the following data:

2150P-1

NO.	Name	Control Function	Avg. Data
05	RDRV	R-DRIVE	Fix: 41
06	GDRV	G-DRIVE	Adjust
07	BDRV	B-DRIVE	Adjust
08	RCUT	R-CUT OFF	Fix: 41
09	GCUT	G-CUT OFF	Adjust
10	BCUT	B-CUT OFF	Adjust

3. Adjust sub brightness: Input an all black signal (to IRE 7.5% set up) 480i (15.75 KHz) signal into the VIDEO 1 input terminal and adjust the following parameter of CXA2150P-1:

CXA2150P-1

NO.	Name	Control Function	Avg. Data
04	SBRT	SUB-BRIGHT	Adjust

INITIAL DATA (IMPORTANT)

2150P-1

NO.	Name	Control Function	Avg. Data
00	SBOT	SUB-BRT OFFSET	7
12	SBOF	SUB-BRT OFFSET	63

4. Repeat steps 2-3.

2-8. RASTER CENTER ADJUSTMENT

Preparation:

- Input a monoscope signal.
- Set to NTSC (DRC) mode.

1. Set to service mode and adjsut as follows:

CXA2150P-2

NO.	Name	Control Function	Avg. Data
06	AGNG	AGING 1, AGING 2	2

CXA2150P-2

NO.	Name	Control Function	Avg. Data
02	HSIZ	Horiz Size	31

CXA2150P-3

NO.	Name	Control Function	Avg. Data
00	HBLK	Blanking Enable	0

2. Reduce HSIZ to see sides of raster.
3. Adjust H-Center with CXA2150D-2 00.
4. Adjust to the best screen position with H-CENT and write data.
5. Resotore aging, HSIZ and HBLK to original condition.

2-9. PICTURE DISTORTION ADJUSTMENTS

2-9.1. NTSC (DRC) FULL MODE ADJUSTMENT

1. Face the picture tube in an east-west direction.
2. Complete VPIN and VCEN adjsuments first (A2150-D1 o5 VPIN, A2150-D1 04 VCEN)
3. Input a monoscope and crosshatch signal. Adjust the picture distortion with the following service parameters to balance the best condition for these two signals.

A2150-D1	00	VPOS
A2150-D1	01	VSIZ
A2150-D1	02	VLIN
A2150-D1	03	VSCO
A2150-D1	04	SCEN
A2150-D1	05	VPIN
A2150-D1	06	HTPZ

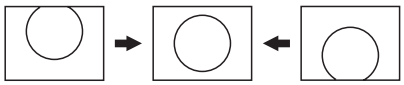
A2150-D2	01	HPOS
A2150-D2	02	HSIZ
A2150-D2	03	SLIN
A2150-D2	04	PIN
A2150-D2	05	UCP
A2150-D2	06	LCP
A2150-D2	07	PPHA
A2150-D2	08	VANG
A2150-D2	09	LANG
A2150-D2	10	VBOW
A2150-D2	11	LBOW

Note: Make sure that the picture size is within specs. Vertical size is 11.8 sq. and horizontal size is 15.8 sq.

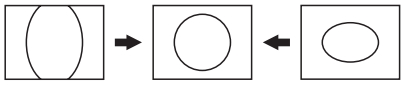
4. Write data into memory and then set the screen to 1080i mode.

CXA2150D-1

0. VPOS (V-POSITION)



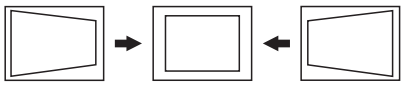
1. VSIZ (V-SIZE)



2. VLIN (V-LINE)

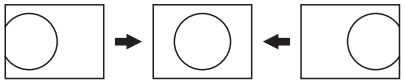
3. VSCO (VS-COR)

7. HTPZ (H-TRAPEZOID)

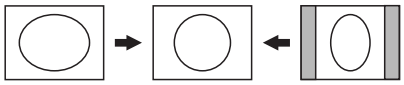


CXA2150D-2

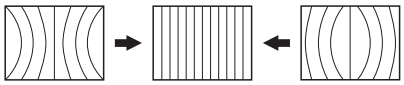
1. HPOS (H-POSITION)



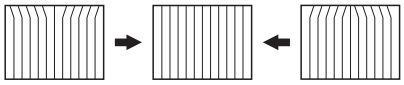
2. HSIZ (H-SIZE)



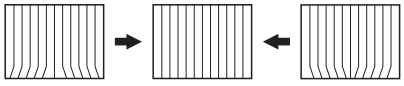
5. PIN (PIN AMP)



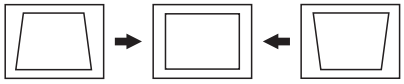
6. UCP (UP COR PIN COR)



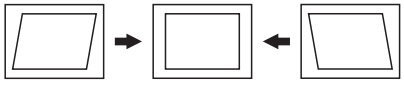
7. LCP (LOW CO PIN COR)



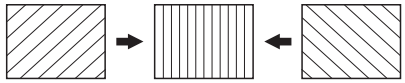
13. PPHA (PIN PHASE)



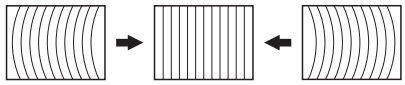
14. VANG (AFC-ANGLE)



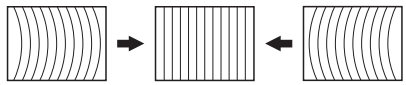
15. LANG (L-ANGLE)



16. VBOW (AFC-BOW)



17. LBOW (L-BOW)



2-9.2. 1080i HD MODE ADJUSTMENT

1. Input a 1080i cross-hatch signaland an HD monoscope signal that contains overscan markers.
2. Adjust the raster position per section 3-8, only if this procedure was not performed for full mode.
3. Adjust the geometry similar to Fill DRC mode. Vertical size is 11.8 sq. and horizontal size is 15.8 sq., if monoscope signal is available. Otherwise, set the vertical size to 91.5% scan and horizontal size as 90% scan.
4. Use the following register to adjust the horizontal parameter:

A2150-D2	01	HPOS

Note: If necessary, touch up the geometry using the data register listed above for Full mode.

5. Write the data into memory.

2-9.3. VERTICAL COMPRESSES MODE CHECK AND CONFIRMATION

1. Input a monoscope and crosshatch signal.
2. Check vertical compressed mode.

SECTION 3: SAFETY RELATED ADJUSTMENTS

3-1. ⋈ RV8001, RV8002 CONFIRMATION METHOD AND HV SERVICE ADJUSTMENTS

3-2. B+ MAX CONFIRMATION

Standard ..... 135.3 ± 1 VCD

Check Condition:

AC input voltage: ..... 120 (± 2) VAC at Board Adjustment Process

..... 130 (± 2) VAC at QC

... 120 (± 2) VAC at Overall Adjustment (after aging)

Note: If using a stabilized power supply, make sure that the distortion factor is 3% or less.

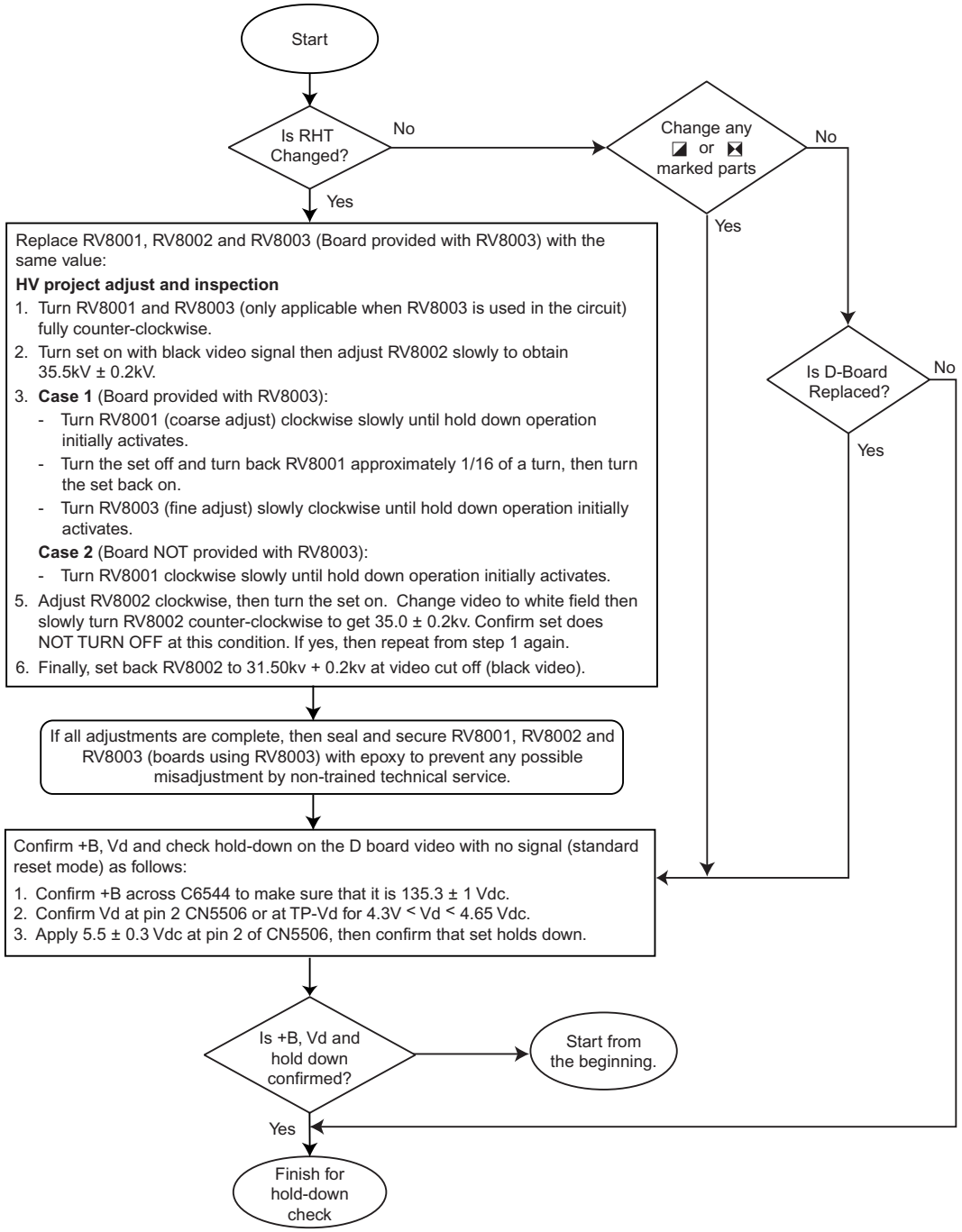
Setting mode: ..... Full mode

Signal input: ..... Cross-hatch of NTSC at QC

Initial setting: ..... Reset condition at QC

Confirm point: ..... Across C6544 for B+ of D Board

3-3. HV SERVICE FLOWCHART


Start
Is RHT Changed?
No
Yes
Change any ◪ or ⋈ marked parts
No
Yes
Replace RV8001, RV8002 and RV8003 (Board provided with RV8003) with the same value:
HV project adjust and inspection
1. Turn RV8001 and RV8003 (only applicable when RV8003 is used in the circuit) fully counter-clockwise.
2. Turn set on with black video signal then adjust RV8002 slowly to obtain 35.5kV ± 0.2kV.
3. Case 1 (Board provided with RV8003):
- Turn RV8001 (coarse adjust) clockwise slowly until hold down operation initially activates.
- Turn the set off and turn back RV8001 approximately 1/16 of a turn, then turn the set back on.
- Turn RV8003 (fine adjust) slowly clockwise until hold down operation initially activates.
Case 2 (Board NOT provided with RV8003):
- Turn RV8001 clockwise slowly until hold down operation initially activates.
5. Adjust RV8002 clockwise, then turn the set on. Change video to white field then slowly turn RV8002 counter-clockwise to get 35.0 ± 0.2kv. Confirm set does NOT TURN OFF at this condition. If yes, then repeat from step 1 again.
6. Finally, set back RV8002 to 31.50kv + 0.2kv at video cut off (black video).
Is D-Board Replaced?
No
Yes
If all adjustments are complete, then seal and secure RV8001, RV8002 and RV8003 (boards using RV8003) with epoxy to prevent any possible misadjustment by non-trained technical service.
Confirm +B, Vd and check hold-down on the D board video with no signal (standard reset mode) as follows:
1. Confirm +B across C6544 to make sure that it is 135.3 ± 1 Vdc.
2. Confirm Vd at pin 2 CN5506 or at TP-Vd for 4.3V < Vd < 4.65 Vdc.
3. Apply 5.5 ± 0.3 Vdc at pin 2 of CN5506, then confirm that set holds down.
Is +B, Vd and hold down confirmed?
Start from the beginning.
Yes
Finish for hold-down check

SECTION 4: CIRCUIT ADJUSTMENTS

ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER

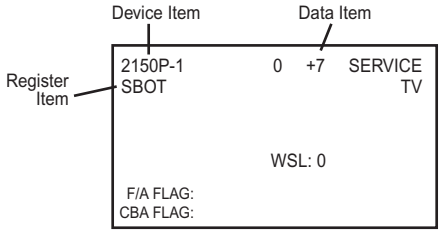
Use the Remote Commander (RM-Y183, RM-Y184) to perform the circuit adjustments in this section.

Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

4-1. SETTING THE SERVICE ADJUSTMENT MODE

1. Standby mode (Power off).
2. Press the following buttons on the remote commander within one second of each other:
   DISPLAY → Channel 5 → Sound Volume + → Power

SERVICE ADJUSTMENT MODE VIEW



READING THE MEMORY

1. Enter into service mode.
2. Press 0 on the remote commander.
3. Press ENTER to read memory.

ADJUSTING THE PICTURE

1. Enter into service mode
2. Press 2 or 5 on the remote to select the device item.
3. Press 1 or 4 on the remote to select an item.
4. Press 3 or 6 on the remote to change the data.
5. Press MUTING then ENTER to write into memory.

4-1.1 RESETTING THE DATA

Note: Be careful when using the remote! It will clear and re-initialize ALL NVM data including deflection adjustment data if not reset properly as follows:

RESETTING THE DEFLECTION NVM DATA

1. Enter into service mode.
2. Press 7, then MENU, and then press ENTER on the remote.

RESETTING THE SYSTEM NVM DATA

1. Enter into service mode.
2. Press 7, then 9, and then press ENTER on the remote.

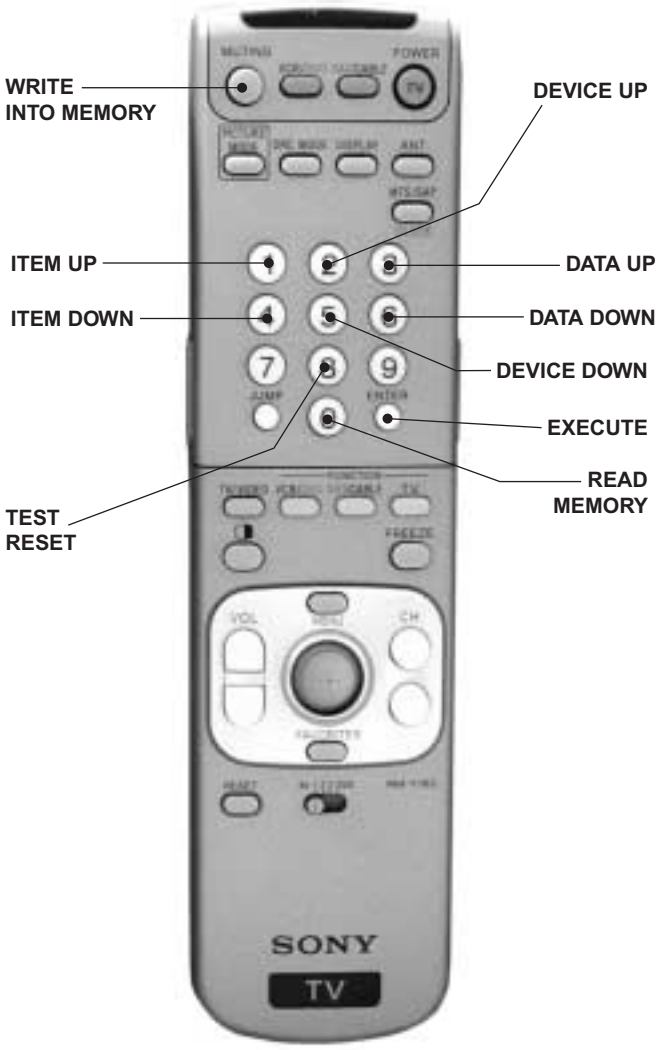
RESETTING THE SYSTEM NVM DATA

1. Enter into service mode.
2. Press 8 and then press ENTER on the remote.

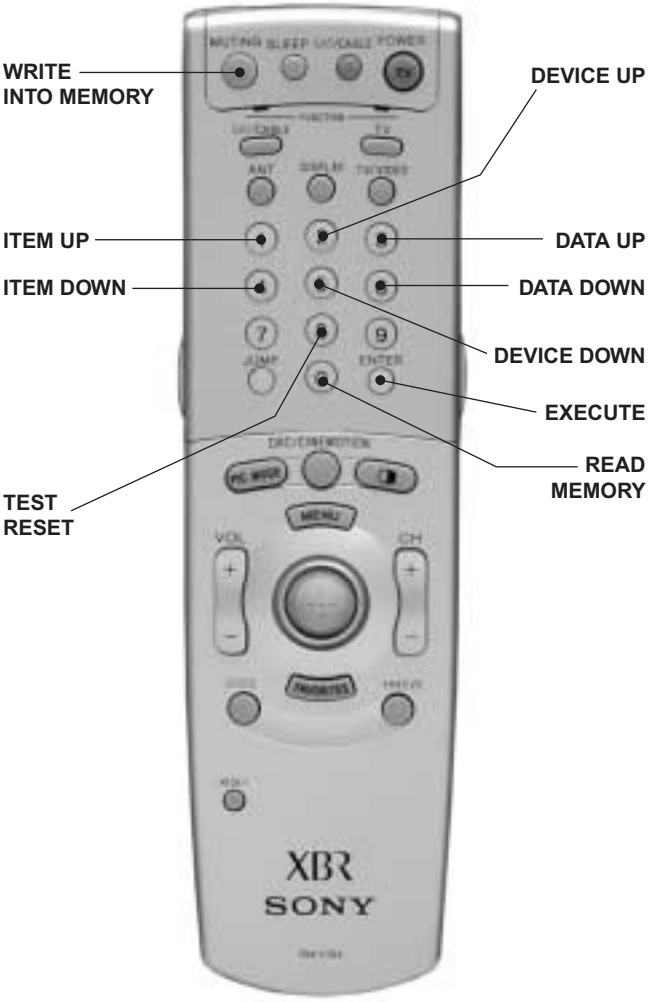
4-2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again to confirm they were adjusted.

4-3. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



RM-Y183
(KV-32HS20/36HS20/36HS20H ONLY)



RM-Y184
(KV-32XBR450/36XBR450/36XBR450H ONLY)

SERVICE DATA LISTS

DX1A-2001* Service List ------ Contents & Notes					
Category Number & Name		Device Name	Device Reference Number	Slave Address	Comment
# 1	**3D-COMB**	mPD64082	IC3501 / BC-board	B8h (W) & B9h (R)	W&R: Write & Read
# 2-1	**CXA2103-1 (Main)**	CXA2103Q	IC3048 (Main) / B-board	9Ah	
# 2-2	**CXA2103-2 (Sub)**		IC3110 (Sub) / B-board	9Eh	
# 3-1	**CXA2150P-1**	CXA2150AQ	IC201 / A-board	86h	
# 3-2	**CXA2150P-2**				
# 3-3	**CXA2150P-3**				
# 3-4	**CXA2150P-4**				
# 4-1	**CXA2150D-1**	CXA2150AQ	IC201 / A-board	86h	
# 4-2	**CXA2150D-2**				
# 4-3	**CXA2150D-3**				
# 5	**CXA2151**	CXA2151Q	IC3001 / B-board	84h	
# 6	**D-CONV**	CXA8070P	IC5513 / D-board	DEh	
# 7	**CXA2026**	CXA2026AS	IC5511 / D-board	8Eh	
# 8	**AP**	BH3868AFS	IC7001 / A-board	82h	
# 9	**TRUS**	NJM2180M	IC4101 / S-board	2Eh	Controlled through CXA1315M (IC4103 / S-board / 48h)
# 10	**MID1**	CXD9509AQ	IC3408 / B-board	2Eh	Controlled through MID-XA Micro (IC3090 / B-board / 64h)
# 11	**MID2**	CXD9509AQ	IC3408 / B-board	2Eh	Controlled through MID-XA Micro (IC3090 / B-board / 64h)
# 12	**MID3**	CXD9509AQ	IC3408 / B-board	2Eh	Controlled through MID-XA Micro (IC3090 / B-board / 64h)
# 13	**MID5**	CXD9509AQ	IC3408 / B-board	2Eh	Controlled through MID-XA Micro (IC3090 / B-board / 64h)
# 14	**OSD**	M306V2ME-153FP	IC701 / A-board	60h	DX1A-2001 System Micro {V1.0}
# 15	**SNNR**	mPD64082	IC3501 / BC-board	B8h (W) & B9h (R)	
		CXA2103Q	IC3048 (Main) / B-board	9Ah	
		CXA2150Q	IC201 / A-board	86h	
# 16	**ID1**	CXD2085M	IC3603 / B-board	40h	
# 17	**CCD&VCHIP**	CXP85840A-039Q	IC3602 (Main) / B-board	68h (Main)	CCD&Vchip Micro (V2.14)
			IC3601 (Sub) / B-board	6Ch (Sub)	
# 18	**OP**	M306V2ME-153FP	IC701 / A-board	60h	DX1A-2001 System Micro {V1.0}
# 19	**ID**	M306V2ME-153FP	IC701 / A-board	60h	DX1A-2001 System Micro {V1.0}
DX1A-2001 System Micro & Notes for Services		M306V2ME-153FP (MASK), Software Version 1.0, IC701/A-board (Slave Adress: 60h) The system micro name, software&patch versions, and the status of NVM devices are displayed only when in the service catergory			
DX1A-2001 MID-XA Micro		MB94918RPF-G-137-BND (MASK), Software Version 12/08/00, IC3090/B-board (Slave Address: 64h)			
DX1A-2001 CCD&Vchip Micros		CXP85840A-039Q (MASK), Software Version 2.14, IC3602/B-board (Main/Slave Address: 68h) & IC3601/B-board (Sub/Slave Address: 6			

Note:
*** This service list is used for DX1A-2001 ONLY. Some service data is the same in DX1A-2001 & 2000, as noted in the data sheets.**

DX1A-2001&2000 SERVICE LIST (#1): 3D-COMB / mPD64082 (Part-1/4)

Device Name: mPD64082GF { 3D-Comb Filter / NEC } / IC3501 (BC-board) / P/N: 8-759-594-44 (SB#: V7372)
Slave Address: B8h (Write Address) / B9h (Read Address)

Register No	Register Name	Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)				Comment
					UHF/VHF & CVideo		SVideo		CVideo (CV): CVideo1~4 inputs SVideo (SV): SVideo1~3 inputs
					Standard	Non-standard	Standard	Non-standard	
0	**NRMD**	Operation mode setting		0~3	0	1	3	3	
1	**YAPS**	Y-output correction (V-aperture compensation & Y-peaking filtering)	C	0~3	3				C: Common data
2	**CLKS**	System clock setting	C	0~3	1				
					UHF/VHF & CVideo		SVideo		
					Standard	Non-standard	Standard	Non-standard	
3	**NSDS**	Selection for standard/non-satndard signal processing		0~3	0	0	0	0	
4	**MSS**	Selection for inter-frame/inter-line processing	C	0~3	0				
5	**KILS**	Killer processing selection	C	0~3	1				
6	**CDL**	C-signal phase with respect to the Y-signal (Fine adjustment at 70 ns/step)	C	0~7	3				
		NRMD Setting-based Control Table for DYCO, DYGA, DCCO, DCGA			NRMD = 0	NRMD = 1	NRMD = 2	NRMD = 3	
7	**DYCO**	DY detection coring level (Y motion detection coring)		0~15	2	2	2	2	
8	**DYGA**	DY detection gain (Y motion detection gain)		0~15	10	10	10	10	
9	**DCCO**	DC detection coring level (C motion detection coring)		0~15	5	5	5	5	
10	**DCGA**	DC detection gain (C motion detection gain)		0~15	5	5	5	5	
11	**YNRL**	Frame recersive YNR nonlinear filter limit level	C	0~3	1				
12	**CNRL**	Frame recersive CNR nonlinear filter limit level	C	0~3	1				
					UHF/VHF	Video1~4	Video5&6		Video1~4: CVideo1~4 & SVideo1~3 inputs Video5&6: YPbPr-480i/480p/1080i inputs
13	**VTRH**	Hysteresis for Hsync non-standard signal detection (out-of-Hsync intra-field)		0~3	1	1	1		
14	**VTRR**	Sensitivity for Hsync non-standard signal detection (out-of-Hsync intra-field)		0~3	1	1	1		
15	**LDSR**	Sensitivity for frame non-standard signal detection (out-of-Hsync inter-frame)		0~3	2	2	2		
		VM&SNNR Setting-based Control Table for VAPG & VAPI **VAPG= VAPG1 - VAPG2**			VAPG1 Data Based on MENU/VM Setting				This setting continues to the next page.
					VM = Off	VM = Low	VM = Mid	VM = High	
16	**VAPG**	V-aperture compensation gain		0~7	0	2	3	4	
17	**VAPI**	V-aperture compensation convergence point		0~31	4	4	4	4 (32V) or 8 (36V) {Initial/CBA Data = 8}	
		SNNR Setting-based Control Table for YPFT & YHFG				SNNR Setting (-Offset)			
						SNNR = 0	SNNR = 1	SNNR = 2	SNNR = 3
18	**YPFT**	Y peaking filter (BPF) center frequency		0~3	0	0	0	0	0
19	**YPFG**	Y peaking filter (BPF) gain		0~15	7	0	1	2	3

Note: The same 3D-COMB service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#1): 3D-COMB / mPD64082 (Part-2/4)

Register No & Name	Data Initial/Average Setting (32V&36V CRTs)				Comment
	VAPG2 Data Based on SNNR/Offset-setting				
	SNNR = 0	SNNR = 1	SNNR = 2	SNNR = 3	
#16 **VAPG (cont**	0	0	0	0	

Note: The same 3D-COMB service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#1): 3D-COMB / mPD64082 (Part-3/4)

Register No.	Register Name	Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)				Comment
		SNNR Setting-based Control Table for YHCO & YHCG			**SNNR = 0**	**SNNR = 1**	**SNNR = 2**	**SNNR = 3**	(Not SNNR Offset Data)
20	**YHCO**	Y output high frequency component coring		0~3	1	1	1	1	YHCO&YHCG settings are sent directly to 3D-Comb device.
21	**YHCG**	Y output high frequency component coring gain		0, 1	0	0	0	0	
22	**HSSL**	Hsync slice level	C	0~15	12	C: Common data			
23	**VSSL**	Vsync slice level	C	0~15	8				
24	**ADCL**	ADC clock delay	C	0~3	3				
		NRMD Setting-based Control Table for D2GA			**NRMD = 0**	**NRMD = 1**	**NRMD = 2**	**NRMD = 3**	
25	**D2GA**	Moving detection gain		0~7	4	4	4	4	
26	**KILR**	Killer detection reference	C	0~15	3				
27	**OP1**	Option1: Selection of comb filter & recursive noise reduction types	C	0, 1	1				
					UHF/VHF	**CVideo1**	**SVideo1**	This setting continues to the next page.	
28	**NR1**	Noise reduction on/off		0, 1	0	0	1		
29	**NR2**	SNNR control on/off	C	0, 1	0				
30	**WSL**	Noise level detection data		0~255	1 Byte Data from Read Register WSL				
31	**HPLL**	H-PLL filter (Must be set to 1 when MN signal is input.)	C	0, 1	1				
32	**BPLL**	Burst PLL filter	C	0, 1	1				
33	**FSCF**	Burst extraction gain	C	0, 1	0				
34	**PLLF**	PLL loop gain	C	0, 1	1				
					UHF/VHF	**Video1~4**	**Video5&6**	Video1~4: CVideo1~4 & SVideo1~3 inputs Video5&6: YPbPr-480i/480p/1080i inputs	
35	**CC3N**	Selection of a line-comb filter C separation filter characteristic		0, 1	0	0	0		
36	**HDP**	Fine adjustment of the system H-phase	C	0~7	5				
37	**BGPS**	Internal burst gate start position {Gate Start Position from Hsync center = 0.25 x BGPS + 2	C	0~15	4				
38	**BGPW**	Internal burst gate width {Gate Width = 0.25 x BGPW + 0.5 (ms)}	C	0~15	10				
39	**TEST**	Test bit {0: Normal mode, 1: Test mode (forbidden setting)}	C	0, 1	0				
40	**WSC**	Amount of noise detection coring	C	0~3	1				
					UHF/VHF & Video1~4		**Video5&6**	This setting is used for non-standard signals such as Play Station signals.	
41	**LIND**	DRC-M line-doubling setting for non-standard signals	Micro	0~63	0		2		
42	**PFGO**	(YPFG offset at GR on) --- Not used for DX1A	---	0~7	3	(Not used for DX1A)			

Note: The same 3D-COMB service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#1): 3D-COMB / mPD64082 (Part-4/4)

Register No & Name	Data Initial/Average Setting (32V&36V CRTs)				Comment
	CVideo2	**SVideo2**	**CVideo3**	**SVideo3**	
#28 **NR1 (cont.)**	0	1	0	1	

Note: The same 3D-COMB service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#2-1): CXA2103-1 {Main}

Device Name: CXA2103Q { NTSC-YCT (Chroma Decoder) / SONY } / IC3048 (B-board) / P/N: 8-752-089-50 (SBorSD#: NA)
Slave Address: 9Ah { Main }

	Register No & Name	Control Register Function & Link	Data Type	Data Range	Data Initial Setting & [Average Data] (32V&36V CRTs)				Data Initial/Average Setting (32V&36V CRTs)				Note
					UHF/VHF & Video		YPbPr-480i		Video: CVideo1~4 & SVideo1~3 Inputs P&P-Left (M)-1080i&480i: If P&P-Left is 1080i/480p signal, the signal from the main chroma decoder is sent to MID/VDO input. *: Settings not used				
					P&P-Left (M)-DRC	P&P-Left (M)-1080i	P&P-Left (M)-DRC	P&P-Left (M)-480i					
0	YLEV	Y-Out gain		0~63	23	27*	28	31*					
1	CLEV	Cb&Cr-Out gains		0~63	17	55*	32	31*					
					UHF/VHF		Video		Adj.: Adjusted data [Adj.-2steps]: The adjusted data - 2 steps				
2	SCON	Sub contrast	Adj.	0~15	7 [7]		7 [7]						
3	SCOL	Sub color	Adj.	0~15	7 [7]		7 [7]						
4	SHUE	Sub hue	Adj.	0~15	7 [Adj.-2steps]		7 [Adj.-2steps]						
5	YDLY	Y/C delay time		0~3	0		0						
		SNNR Data-related Settings			UHF/VHF	CVideo	SVideo	YPbPr 480i	SNNR=0 (-offset)	SNNR=1 (-offset)	SNNR=2 (-offset)	SNNR=3 (-offset)	
6	SHAP	Sharpness		0~15	6	4	4	4	0	1	2	3	
7	SHF0	Sharpness f0 selector		0~3	0	0	0	0					
8	PREO	Sharpness pre/over-shoot ratio		0~3	3	0	0	0					
9	BPF0	Chroma band filter f0 setting		0~3	3	0	0	0					
10	BPFQ	Chroma band filter Q setting		0~3	0	3	3	3	CVideo: CVideo1~4 Inputs SVideo: SVideo1~3 Inputs				
11	BPSW	Chroma band filter on/off		0, 1	1	0	0	0					
12	TRAP	Y bolck chroma trap filter on/off		0, 1	0	0	0	0					
13	LPF	YPbPr-Output LPF on/off		0, 1	0	0	0	0					
					UHF/VHF	Video	YPbPr 480i						
14	AFCG	AFC Loop Gain (PLL between Hsync & HVCO)		0, 1	1	0	0						
15	CDMD	V countdown system mode selector		0~3	3	3	3						
16	SSMD	H&Vsync slide level setting		0~3	0	0	0						
17	HMSK	Masking of macrovision signal on/off		0, 1	1	1	1						
18	HALI	H automatic adjustment on/off		0, 1	0	0	0						
19	PPHA	H TIM phase adjustment for video		0~15	7	7	7						
					UHF/VHF & Video		YPbPr-480i						
					P&P-Left (M)-DRC	P&P-Left (M)-1080i	P&P-Left (M)-DRC	P&P-Left (M)-480i					
20	CBOF	Cb-Offset1 of Cb IN (Pin34) Cb-Offset2 of EXT Cb (Pin38)		0~(31)~63	31	31*	31	31*	*: Settings not used (31): The center setting = 31				
21	CROF	Cr-Offset1 of Cr IN (Pin35) Cr-Offset2 of EXT Cr (Pin39)		0~(31)~63	31	31*	31	31*					
		CXA2150P-4/#13 UBLK Setting-related Controls for ATPD & DCTR			P&P & Favorite				P&P & Favorite				Single
					UBLK = 0	UBLK = 1	UBLK = 2	UBLK = 3	UBLK = 4	UBLK = 5	UBLK = 6	UBLK = 7	UBLK = 0~7
22	ATPD	Auto-pedestal Inflection Point		0~3	0	1	2	3	1	2	3	2	0
23	DCTR	DC Transmission Ratio		0~3	0	1	1	1	2	2	2	3	0

Note: The same CXA2103 service data (Main&Sub) is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#2-2): CXA2103-2 {Sub}

Device Name: CXA2103Q { NTSC-YCT (Chroma Decoder) / SONY } / IC3110 (B-board) / P/N: 8-752-089-50 (SBorSD#: NA)
Slave Address: 9Eh { Sub }

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial Setting & [Average Data] (32V&36V CRTs)				Data Initial/Average Setting (32V&36V CRTs)				Note
					UHF/VHF & Video				Video: CVideo1~4 & SVideo1~3 Inputs P&P-Right (S)-DRC: If P&P-Left is 1080i/480p signal, the signal from the sub chroma decoder is switched to DRC path.				
					P&P-Right (S)	P&P-Right (S)-DRC							
0	YLEV	Y-Out gain		0~63	23	22							
1	CLEV	Cb&Cr-Out gains		0~63	18	16							
					UHF/VHF		Video		Adj.: Adjusted data [Adj.-2steps]: The adjusted data - 2 steps				
2	SCON	Sub contrast	Adj.	0~15	7 [7]		7 [7]						
3	SCOL	Sub color	Adj.	0~15	7 [7]		7 [7]						
4	SHUE	Sub hue	Adj.	0~15	7 [Adj.-2steps]		7 [Adj.-2steps]						
5	YDLY	Y/C delay time		0~3	0		0						
		SNNR Data-related Settings			UHF/VHF	CVideo	SVideo		SNNR=0 (-offset)	SNNR=1 (-offset)	SNNR=2 (-offset)	SNNR=3 (-offset)	
6	SHAP	Sharpness		0~15	6	4	4		0	1	2	3	
7	SHF0	Sharpness f0 selector		0~3	0	0	0						
8	PREO	Sharpness pre/over-shoot ratio		0~3	3	0	0						
9	BPF0	Chroma band filter f0 setting		0~3	0	0	0						
10	BPFQ	Chroma band filter Q setting		0~3	0	0	0		CVideo: CVideo1~4 Inputs SVideo: SVideo1~3 Inputs				
11	BPSW	Chroma band filter on/off		0, 1	0	0	0						
12	TRAP	Y bolck chroma trap filter on/off		0, 1	0	0	0						
13	LPF	YPbPr-Output LPF on/off		0, 1	0	0	0						
					UHF/VHF	Video							
14	AFCG	AFC Loop Gain		0, 1	1	0							
15	CDMD	V countdown system mode selector		0~3	3	3							
16	SSMD	H&Vsync slide level setting		0~3	0	0							
17	HMSK	Masking of macrovision signal on/off		0, 1	1	1							
18	HALI	H automatic adjustment on/off		0, 1	0	0							
19	PPHA	H TIM phase adjustment for video		0~15	7	7							
					UHF/VHF & CVideo		YPbPr-480i						
					P&P-Right (S)	P&P-Right (S)-DRC	P&P-Right (S)	P&P-Right (S)-DRC					
20	CBOF	Cb-Offset1 of Cb IN (Pin34) Cb-Offset2 of EXT Cb (Pin38)		0~(31)~63	31	31	31*	31*	*: Settings not used (31): The center setting = 31				
21	CROF	Cr-Offset1 of Cr IN (Pin35) Cr-Offset2 of EXT Cr (Pin39)		0~(31)~63	31	31	31*	31*					
		CXA2150P-4/#13 UBLK Setting-related Controls for ATPD & DCTR			P&P & Favorite				P&P & Favorite				Single
					UBLK = 0	UBLK = 1	UBLK = 2	UBLK = 3	UBLK = 4	UBLK = 5	UBLK = 6	UBLK = 7	UBLK = 0~7
22	ATPD	Auto-pedestal Inflection Point		0~3	0	1	2	3	1	2	3	2	0
23	DCTR	DC Transmission Ratio		0~3	0	1	1	1	2	2	2	3	0

Note: The same CXA2103 service data (Main&Sub) is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-1): CXA2150P-1 {Picture Controls: P1}

Device Name: CXA2150AQ { CRT Driver / SONY } / IC201 (A-board) / P/N: 8-752-093-35 (SBorSD#: NA)
Slave Address: 86h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial Settings & [Average Data] (32V&36V CRTs)							Comment
					UHF VHF	CV	SV	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	CV: CVideo1~4 SV: SVideo1~3 ( ): Settings at center
0	**SBOT**	Offset for SBRT		0~(7)~15	7	7	7	7	7	7	7	
1	**YOF**	Y_OFFSET: DC-offset for Y signal		0~(7)~15	0	0	0	0	0	0	0	
2	**CBOF**	CB_OFFSET: DC-offset for Cb signal		0~(31)~63	31	31	31	33	30	31	13	
3	**CROF**	CR_OFFSET: DC-offset for Cr signal		0~(31)~63	31	31	31	42	36	31	23	
4	**SBRT**	SUB_BRIGHT: Sub Bright	Adj.	0~63	24 [24]							Adj.: Adjusted data C: Common data Initial Setting = [Avg. Data]
5	**RDRV**	R_DRIVE: R output drive	C	0~63	41							
6	**GDRV**	G_DRIVE: G output drive	Adj.	0~63	36 [36]							
7	**BDRV**	B_DRIVE: B output drive	Adj.	0~63	33 [33]							
8	**RCUT**	R_CUTOFF: R output cutoff	C	0~63	41							
9	**GCUT**	G_CUTOFF: G output cutoff	Adj.	0~63	11 [11]							
10	**BCUT**	B_CUTOFF: B output cutoff	Adj.	0~63	22 [22]							
					Vivid		Standard		Movie		Pro	
11	**WBSW**	WB_SW: White balance offset on/off (Related to UTMP seetings)		0, 1	0 (Cool)		0 (Neutral)		1 (Warm)		0	
12	**SBOF**	Offset for SBRT		0~(63)~127	63		63		63		63	
13	**RDOF**	Offset for RDRV		0~(63)~127	63		63		63**		63	**: The color temporature offset data
14	**GDOF**	Offset for GDRV		0~(63)~127	63		63		66**		63	
15	**BDOF**	Offset for BDRV		0~(63)~127	63		63		76**		63	
16	**RCOF**	Offset for RCUT		0~(63)~127	63		63		63**		63	
17	**GCOF**	Offset for GCUT		0~(63)~127	63		63		66**		63	
18	**BCOF**	Offset for BCUT		0~(63)~127	63		63		78**		63	

Note:
The same CXA2150 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-2): CXA2150P-2 {Picture Controls: P2}

Device Name: CXA2150AQ { CRT Driver / SONY } / IC201 (A-board) / P/N: 8-752-093-35 (SBorSD#: NA)
Slave Address: 86h

Register No	Register Name	Control Register Function & Link	Data Type	Data Range	Data Initial/Average Settings (32V&36V CRTs)						Comment
0	**ALBK**	PIC_ON: RGB output including AKB reference pulse on/off (Setting = 0 for power on reset) --- G2 adjustment register setting	C	0, 1	1						C: Common data
1	**RGBS**	R_ON/G_ON/B_ON: R/G/B outputs on/off (AKB reference pusle can not be turned on/off.) (0,1/0,1/0,1)	C	0~7	7						
2	**BLKB**	BLK_BTM: RGB output bottom limit level (Black Limit) (AKB reference pusle DC-voltage)	C	0~3	3						
3	**LIML**	PLIMIT_LEV: Threshold level for excessively high inputs (White Limit	C	0~3	0						
4	**PABL**	P_ABL: DC-level in RGB output detection for PEAK ABL	C	0~15	15						
5	**SABL**	S_ABL: S_ABL gain	C	0~3	0						
6	**AGNG**	AGING_W/AGING_B: AGING_W/AGING_B modes on/off (Set luminance to 80/01IRE flat-field signal.)	C	0~3 (0,1/0,1)	0						
7	**AKBO**	AKBOFF: Automatic/Manual-Cutoff setting	C	0, 1	0						
					U/VHF & Video1~4	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P		Video1~4: CVideo1~4 & SVideo1~3
8	**SYPH**	SYNC_PHASE: Hsync delay with respect to Video (100%: H-period)		0~3	0	0	0	0	0		
9	**CLPH**	CLP_PHASE: Internal clamp pulse phase (100%: H-period)		0~3	3	3	3	3	3		
10	**CLGA**	CLP_GATE: Switch for the gated internal clamp pulse with Hsync input		0, 1	0	0	0	0	0		
11	**JAXS**	JAXIS: Color axis switch		0, 1	0						
12	**BLKO**	BLKO: Blanking switch		0, 1	0						

Note:
The same CXA2150 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-3): CXA2150P-3 {Picture Controls: P3} (Part-1/3)

Device Name: CXA2150AQ { CRT Driver / SONY } / IC201 (A-board) / P/N: 8-752-093-35 (SBorSD#: NA)
Slave Address: 86h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Settings (32V&36V CRTs) Picture Mode: Vivid							Comment
					UHF VHF	CV	SV	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	
0	**SYSM**	SYSTEM: Signal bandwidth setting		0~3	1	1	1	1	1	2	2	These settings continue to the next page. CV: CVideo1~4 SV: SVideo1~3 C: Common data ( ): Settings at center
1	**UVML**	VM_LEV: VM_OUT level	C	0~3	3							
2	**VMMO**	System Micro pin#40		0, 1	0	0	0	0	0	0	0	
3	**VMCR**	VM_COR: VM_OUT coring level		0~3	3	3	3	3	3	3	3	
4	**VMLM**	VM_LMT: VM_OUT limit level		0~3	3	3	3	3	3	3	3	
5	**VMF0**	VM_F0: VM_f0		0~3	2	2	2	2	2	2	2	
6	**VMDL**	VM_DLY: VM_OUT phase (defined by phase difference from R_OUT)		0~3	3	3	3	3	3	1	3	
7	**SHOF**	Offset for USHP = SHOF x 4		0~3	2	2	2	3	3	0	2	
8	**SHF0**	SHP_F0: Sharpness circuit f0		0, 1	1	1	1	1	1	0	1	
9	**PROV**	PRE/OVER: Y signal pre/over-shoot ratio		0~3	3	3	3	1	3	0	3	
10	**F1LV**	SHP_F1: Sharpness for higher f0 (4.2/5.6 MHz @ NORMAL mode)		0~3	0	3	3	3	3	3	3	
11	**CDSP**	SHP_CD: Sharpness in part of high color saturaion		0~3	3	3	3	3	3	3	3	
12	**LTLV**	LTI_LEV: Luminance transient improvement (LTI)		0~3	3	3	3	3	3	3	3	
13	**LTMD**	LTI_MODE: LTI mode setting		0~3	0	0	0	0	0	0	1	
14	**CTLV**	CTI_LEV: Chrominance transient improvement (CTI)		0~3	0	0	0	0	0	2	0	
15	**CTMD**	CTI_MODE: CTI mode setting		0~3	0	0	0	0	0	0	0	
16	**UBOF**	Offset for UBRT (Picture clarity adjustment)		0~(7)~15	7	7	7	7	7	10	7	
17	**UCOF**	Offset for UCOL = UCOF x 2 (Picture clarity adjustment)		0~3	3	3	3	3	3	0	3	
18	**UHOF**	Offset for UHUE (Picture clarity adjustment)		0~3	0	0	0	0	0	0	0	
19	**MIDE**	MID enhancement setting		0~15	3	3	3	7	11	---	---	

Note:
The same CXA2150 service data are used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-3): CXA2150P-3 {Picture Controls: P3} (Part-2/3)

Register No & Name	Data Initial/Average Settings (32V&36V CRTs) Picture Mode: Standard							Data Initial/Average Settings (32V&36V CRTs) Picture Mode: Movie							Data Initial/Average Settings (32V&36V CRTs) Picture Mode: Pro							Note
	UHF VHF	CV	SV	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	UHF VHF	CV	SV	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	UHF VHF	CV	SV	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	
#0 **SYSM (cont.)**	1	1	1	1	1	2	2	1	1	1	1	1	2	2	1	1	1	1	1	2	2	
#1 **UVML (cont.)**	3							0							0							
#2 **VMMO (cont.)**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#3 **VMCR (cont.)**	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
#4 **VMLM (cont.)**	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
#5 **VMF0 (cont.)**	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
#6 **VMDL (cont.)**	1	3	3	3	3	1	3	1	1	1	1	1	1	3	1	1	1	1	1	1	3	
#7 **SHOF (cont.)**	0	3	3	3	3	0	2	0	3	3	3	3	0	3	0	1	1	1	1	0	1	
#8 **SHF0 (cont.)**	0	1	1	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
#9 **PROV (cont.)**	3	3	3	1	3	0	3	3	3	3	1	3	0	3	3	3	3	1	3	0	3	See next page
#10 **F1LV (cont.)**	0	3	3	3	3	3	3	0	0	0	0	0	0	3	0	0	0	0	0	0	3	
#11 **CDSP (cont.)**	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#12 **LTLV (cont.)**	2	2	2	2	2	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#13 **LTMD (cont.)**	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	0	1	
#14 **CTLV (cont.)**	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#15 **CTMD (cont.)**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#16 **UBOF (cont.)**	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
#17 **UCOF (cont.)**	3	3	3	3	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#18 **UHOF (cont.)**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#19 **MIDE (cont.)**	2	2	2	6	10	---	---	1	1	1	5	9	---	---	0	0	0	4	8	---	---	

Note:
The same CXA2150 service data are used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-3): CXA2150P-3 {Picture Controls: P3} (Part-3/3)

Register No & Name	Data Initial/Average Settings (32V&36V CRTs) SNNR=0 (Offset)	SNNR=1 (Offset)	SNNR=2 (Offset)	SNNR=3 (Offset)					Comment
#1 **UVML (cont.)**	0	0	0	0					
#3 **VMCR (cont.)**	0	+ 1	+ 2	+ 3					
#10 **F1LV (cont.)**	0	- 1	- 2	- 3					
#11 **CDSP (cont.)**	0	0	0	0					
#12 **LTLV (cont.)**	0	0	0	0					
#14 **CTLV (cont.)**	0	0	0	0					
#19 **MIDE (cont.)**	0	0	0	0					

Note:
The same CXA2150 service data are used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-4): CXA2150P-4 {Picture Controls: P4} (Part-1/4)

Device Name: CXA2150AQ { CRT Driver / SONY } / IC201 (A-board) / P/N: 8-752-093-35 (SBorSD#: NA) Slave Address: 86h
Device Name: CXD2085M { ID-1 Decoder / SONY } / IC3603 (B-board) / P/N: 8-752-395-13 (SD#: S98511B) Slave Address: 40h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Settings (32V&36V CRTs)							Comment
					Vivid		Standard		Movie		Pro	Settings for 36V CRTs are used for initial settings.
					32V	36V	32V	36V	32&36V			
0	**UPIC**	PICTURE: Picture		0~63	63	63	42	46	31		31	
1	**UBRT**	BRIGHT: Brightness		0~63	25	22	28	26	28		31	
2	**UCOL**	COLOR: Color		0~63	34	38	33	33	33		31	
3	**UHUE**	HUE: Hue		0~63	31	31	31	31	31		31	
		SNNR Setting-related Controls for USHP										This setting continues to the next page.
4	**USHP**	SHARPNESS: Sharpness		0~63	38	42	44	48	34		31	
5	**UTMP**	Color Temporature (0: Warm, 1: Neutral, 2: Cool)		0~2	2	2	1	1	0		1	
6	**UDCL**	DCOL: Dynamic color setting		0~3	2	2	2	2	2		0	
					Picture Mode: Vivid / Standard / Movie							These settings continue to the next page.
					UHF/VHF Video1~4		YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P		
7	**AXIS**	COL_AXIS: Color matrix setting		0~3	3		3	3	3	3		
					Picture Mode: Vivid							Video1~4: CVideo1~4 & SVideo1~3
					UHF/VHF Video1~4		YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P		
8	**UGAM**	GAMMA/GAMMA_L: RGB output GAMMA correction setting ($B_{7\sim6}$) GAMMA_L: Slight GAMMA correction on/off (B_0)		0~7 (0~3/0,1)	5		5	5	5	5		
9	**AGAM**	GAMMA/GAMMA_L (Av Pro user control) --- Void Data		0~7 (0~3/0,1)	---							
		UGAM Setting-related Controls for GSBO, GCOO, GHUO			UGAM = 7	UGAM = 6	UGAM = 5	UGAM = 4	UGAM = 3	UGAM = 2	UGAM = 1	These settings continue to the next page.
10	**GSBO**	Offset for SBRT (8 types of GSBO data based on UGAM values)		0~3	0	0	0	0	0	0	0	
11	**GCOO**	Offset for UCOL		0~3	0	0	0	0	0	0	0	
12	**GHUO**	Offset for UHUE		0~3	0	0	0	0	0	0	0	
					Picture Mode: Vivid							
					UHF/VHF Video1~4		YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P		
13	**UBLK**	Item # 15~18 pack FI data controls		0~7	7		7	7	7	7		
14	**ABLK**	(Av Pro user control) --- Void Data	---	0~7	0 (Void data)							
		UBLK Setting-related Controls for DCTR										
15	**DCTR**	DC_TRAN: Y signal DC transmission (8 types of DCTR data based on UBLK values)		0~3	3		3	3	3	2		These settings continue to the next page. ( ): Seetings at center
16	**DPIC**	DPIC_LEV: Y signal AUTO PEDESTAL level		0~3	2		2	2	2	1		
17	**DSBO**	Offset for SBRT		0~(7)~15	7		7	7	7	7		
18	**ABLM**	ABL_MODE: ABL mode		0~3	1		1	1	1	1		

Note:
The same CXA2150 service data are used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-4): CXA2150P-4 {Picture Controls: P4} (Part-2/4)

Register No & Name	Data Initial/Average Settings (32V&36V CRTs)					Data Initial/Average Settings (32V&36V CRTs)					Data Initial/Average Settings (32V&36V CRTs)					Note
SNNR Setting (-Offset)	SNNR = 0	SNNR = 1	SNNR = 2	SNNR = 3												
#4 **USHP (cont.)**	0	1	3	4												
	Picture Mode: Pro															
	UHF/VHF Video1~4	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P											
#7 **AXIS (Cont.)**	3	3	3	3	3											
	Picture Mode: Standard					Picture Mode: Movie					Picture Mode: Pro					
	U/VHF Video1~4	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	U/VHF Video1~4	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	U/VHF Video1~4	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	
#8 **UGAM (Cont.)**	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	
	UGAM = 0															
#10 **GSBO (cont.)**	0															
#11 **GCOO (cont.)**	0															
#12 **GHUO (cont.)**	0															
	Picture Mode: Standard					Picture Mode: Movie					Picture Mode: Pro					
	UHF/VHF Video1~4	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	UHF/VHF Video1~4	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	UHF/VHF Video1~4	YPbPr 480i	YPbPr 480p	YPbPr 1080i	P&P	
#13 **UBLK (Cont.)**	4	4	4	4	4	1	1	1	1	1	0	0	0	0	0	
#15 **DCTR (Cont.)**	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	See next pages
#16 **DPIC (Cont.)**	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	
#17 **DSBO (Cont.)**	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
#18 **ABLM (Cont.)**	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	

Note:
The same CXA2150 service data are used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-4): CXA2150P-4 {Picture Controls: P4} (Part-3/4)

Register No & Name	Data Initial/Average Settings (32V&36V CRTs)								Comment
	UBLK = 7	UBLK = 6	UBLK = 5	UBLK = 4	UBLK = 3	UBLK = 2	UBLK = 1	UBLK = 0	
#15 **DCTR (Cont.)**	3	2	2	2	1	1	1	1	
#16 **DPIC (Cont.)**	2	3	2	1	3	2	1	0	
#17 **DSBO (Cont.)**	7	7	7	7	7	7	7	7	
#18 **ABLM (Cont.)**	1	0	0	1	0	0	0	0	

Note:
The same CXA2150 service data are used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#3-4): CXA2150P-4 {Picture Controls: P4} (Part-4/4)

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Settings (32V&36V CRTs)					Comment
19	**ABLT**	ABL_TH: ABL currect detection Vth control		0~15	0					
					Full	**Vcomp1**		**Vcomp2**		
20	**ABLC**	Control of CXA2026 {0Ch -- DAC0} (*)		0~255	0	66				
21	**EPOF**	Offset for UPIC = EPOF x (UPIC/63) (for power save) --- Void Data	---	0~31						
		ID-1 and P&P Modes								
22	**SPOF**	Offset for UPIC = SPOF x (UPIC/64) --- Data Not Used	---	0~31	0 (Not used)					
					UHF/VHF Video1~4	**YPbPr 480i**	**YPbPr 480p**	**YPbPr 1080i**	**P&P**	
23	**SCON**	SUB_CONTRAST: SUB PICTURE		0~15	9	8	11	10	9	
24	**CLOF**	Offset for UCOL		0~(7)~15	8	8	9	7	8	
25	**HUOF**	Offset for UHUE		0~7~15	4	3	3	3	4	
		CXD2085 Service Controls								
26	**IDSW**	Switch for activating the selection in #27 DATA	C	0, 1	0					
					Full	**Vcomp1**		**Vcomp2**		
27	**DATA**	Selection of geometry-forced vertical compression modes	C	0~3	0	1		2		

Full: 480p/960i (4x3)
Vcomp1: 480p/960i (16x9)
Vcomp2: 1080i (16x9)

( ): Settings at center
C: Common data

Note:
The same CXA2150 service data are used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#4-1): CXA2150D-1 {Deflection Controls: D1}

Device Name: CXA2150AQ { CRT Driver / SONY } / IC201 (A-board) / P/N: 8-752-093-35 (SBorSD#: NA)
Slave Address: 86h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial Settings & [Average Data] (32V&36V CRTs)			Comment
					Full	Vcomp1	Vcomp2	
0	**VPOS**	V_POSITION: Vertical position (V_DRV siganl DC-bias)	Adj.	0~(31)~63	26 [26]			Full: 480p/960i (4x3) display Vcomp1: 480p/960i (16x9) display Vcomp2: 1080i (16x9) display Adj.: Adjusted data ( ): Settings at center
1	**VSIZ**	V_SIZE: Vertical size (V_DRV signal gain)	Adj.	0~(31)~63	19 [19]			
2	**VLIN**	V_LINEARITY: Vertical linearity (Gain for V_DRV signal secondary component)	Adj.	0~(7)~15	9 [9]			
3	**VSCO**	S_CORRECTION: Vertical S-correction	Adj.	0~(7)~15	8 [8]			
4	**VCEN**	VSAW0_DCH/VSAW0_DCL: Vertical center adjustment VSAW0_DCH: VSAW0 waveform DC component (high 2-bits) VSAW0_DCL: VSAW0 waveform DC component (low 4-bits)	Adj.	0~(31)~63	31 [31]			VCEN-L(Low bit) VCEN-H(High bit)
5	**VPIN**	VSAW0_AMP: Vertical PIN adjustment VSAW0 waveform SAW component amplitude	Adj.	0~(15)~31	15 [15]	15 [Copty1]		[Copy1]: Copy the adjusted data for Full mode.
6	**NSCO**	VSAW1_DC: Rotation	Adj.	0~(7)~15	7 [7]			Either 7 or 8 can be used as the average NSCO data. (If both of them are not good, please feedback to / check with the DY attachment process.)
7	**HTPZ**	VSAW1_AMP: Horizontal trapezoid	Adj.	0~(15)~31	15 [15]			
8	**ZOOM**	ZOOM_SW: Zoom switch		0, 1	0	0		
9	**APSW**	ASP_SW: Aspect switch		0, 1	1	1	0	
10	**ASPT**	V_ASPECT: Aspect ratio	Adj.	0~63	47	47	47	
11	**SCRL**	V_SCROLL: Vertical scroll	Adj.	0~(31)~63	31	32	32	
12	**UVLN**	UP_VLIN: Upper vertical linearity		0~15	0	0		
13	**LVLN**	LO_VLIN: Lower vertical linearity		0~15	0	0		

Note:
The same CXA2150 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#4-2): CXA2150D-2 {Deflection Controls: D2}

Device Name: CXA2150AQ { CRT Driver / SONY } / IC201 (A-board) / P/N: 8-752-093-35 (SBorSD#: NA)
Slave Address: 86h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial Settings & [Average Data] (32V&36V CRTs)			Comment
					Full	Vcomp1	Vcomp2	
0	**HCNT**	HC_PARA_DC: Horizontal center	Adj.	0~(31)~63	31 [31]			Full: 480p/960i (4x3) display Vcomp1: 480p/960i (16x9) display Vcomp2: 1080i (16x9) display ( ): Settings at center Adj.: Adjusted data [Adj.-6steps]: The adj. data for Vcomp2 mode = The adj. data for Full/Vcomp1 modes - 6 steps
1	**HPOS**	H_POSITION: Horizontal position	Adj.	0~(31)~63	31 [31]		31 [Adj.-6steps]	
2	**HSIZ**	H_SIZE: Horizontal size	Adj.	0~(31)~63	45 [45]			
3	**SLIN**	MP_PARA_DC: Horizontal S-correction	Adj.	0~15	3 [3]			
4	**MPIN**	MP_PARA_AMP: Horizontal middle pin		0~15	9 (32V) or 7 (36V)			
5	**PIN**	PIN_AMP: Horizontal pin	Adj.	0~(31)~63	35 [35]			
6	**UCP**	UP_CPIN: Upper corner pin	Adj.	0~(31)~63	38 [38]			
7	**LCP**	LO_CPIN: Lower corner pin	Adj.	0~(31)~63	42 [42]			
8	**UXCG**	UP_UCG: Upper extra corner pin gain		0~3	2 (32V) or 1 (36V)			Data (32Vor36V): The data for 36V are used as the Initial & CBA data. From the system micro (V 2.0), the deflection control-related initial settings are the same as their average data.
9	**LXCG**	LO_UCG: Lower extra corner pin gain		0~3	2			
10	**UXCP**	UP_UCP: Upper extra corner pin position		0~3	2			
11	**LXCP**	LO_UCP: Lower extra corner pin postion		0~3	2			
12	**XCPP**	UC_POL: Extra corner pin polarity		0, 1	0			
13	**PPHA**	PIN_PHASE: Pin phase	Adj.	0~(31)~63	15 [15]			
14	**VANG**	AFC_ANGLE: AFC angle	Adj.	0~(31)~63	31 [31]			
15	**LANG**	HC_PARA_PHASE: Linearity angle	Adj.	0~(31)~63	31 [31]			
16	**VBOW**	AFC_BOW: AFC bow	Adj.	0~(31)~63	31 [31]			
17	**LBOW**	HC_PARA_AMP: Linearity bow	Adj.	0~(31)~63	31 [31]			
18	**CPY1**	Copy Function 1: (Set CPY1=1, then press MUTE + Enter.) Copy all CXA2150D-2 data for Full mode to Vcomp1&2	Micro	0, 1	0			For engineering design use only

Note:
The same CXA2150 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#4-3): CXA2150D-3 {Deflection Controls: D3}

Device Name: CXA2150AQ { CRT Driver / SONY } / IC201 (A-board) / P/N: 8-752-093-35 (SBorSD#: NA)
Slave Address: 86h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Settings (32V&36V CRTs)			Comment
					Full	Vcomp1	Vcomp2	Full: 480p/960i (4x3) display Vcomp1: 480p/960i (16x9) display Vcomp2: 1080i (16x9) display
0	**HBLK**	HBLK_SW: Horizontal blanking switch		0, 1	1			
1	**LBLK**	LEFT_BLK: Left blanking		0~63	45		50	
2	**RBLK**	RIGHT_BLK: Right blanking		0~63	24		27	
3	**VBLK**	VBLK_SW: Vertical blanking switch		0, 1	1	1		
4	**TBLK**	UP_BLK: Top blanking		0~(7)~15	1	8	12	( ): Settings at center
5	**BBLK**	LO_BLK: Bottom blanking		0~(7)~15	0	13	13	
6	**VCMP**	V_COMP: Vertical compensation		0~15	0	0	0	
7	**HCMP**	H_COMP: Horizontal compensation		0~15	0	0		
8	**ACMP**	AFC_COMP: AFC compensation		0~7	0	0		
9	**PCMP**	PIN_COMP: Pin compensation		0~7	0	0		
10	**AFCM**	AFC_MODE: AFC loop gain		0~3	3		2	
11	**VFRQ**	V_FREQ: Vertical frequency		0~3	1			
12	**VON**	V_ON: Vertical drive on		0, 1	1			
13	**JUMP**	JMP_SW: Reference pulse jump swtich		0, 1	0	1		
14	**VDJP**	VDRV_SW: Vertical drive jump switch		0, 1	0	0	1	
15	**VDST**	RST_SW: Vertical drive start switch		0, 1	0	0	1	
16	**EWDC**	EW_DC: Pin DC level shift		0, 1	0	0		
17	**AKBT**	AKBTIM: AKB timing		0~31	20	20	10	

Note:
The same CXA2150 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#5): CXA2151Q

Device Name: CXA2151Q { Component I/F & Sync Seperation / SONY } / IC3001 (B-board) / P/N: 8-752-093-84 (SD#: S00302B)
Slave Address: 84h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Settings (32V&36V CRTs)			Comment
					480i (15.75 KHz)	480p (31.50 KHz)	1080i (33.75 KHz)	Video5&6: YPbPr-480i/480p/1080i inputs Sub: 480i input from the sub-channel Full: 480p/960i (4x3) display Vcomp1: 480p/960i (16x9) display Vcomp2: 1080i (16x9) display C: Common data
0	**MTRX**	MAT_OUT: Selection of color matrix conversion types	Micro	0~3	0	0	1	
1	**GAIN**	GAIN_SEL: Selection of output signals for SELYOUT, SELCBOUT, SELCROUT	C	0~3	0			
2	**CBGN**	YGAIN, CBGAIN, CRGAIN: The gain control of SELYOUT, SELCBOUT, & SELCROUT	C	0~15	9			
3	**VTC**	V_TC: Setting of Vsync separation time constant	C	0~3	1			
4	**HWID**	H_WIDTH: Setting of the output pulsewidth of SELHOUT	C	0~3	1			
					Video5	**Video6**	**Sub**	
5	**HSEP**	HSEP_SEL: Setting for the sync separation system		0, 1	0	0	0	
6	**TEST**	TEST: Test mode selection (for device tests)	C	0, 1	0			
7	**FRGB**	The forced RGB selection (for tests) {0: MAT_OUT = MTRX (#0), 1: MAT_OUT = MTRX (#3)}	C	0, 1	0			
					Full	**Vcomp1**	**Vcomp2**	
8	**HMSK**	Hsync masking in vertical retrace		0, 1	1		0	

Note:
The same CXA2151 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#6): D-CONV / CXA8070

Device Name: CXA8070AP { DY-Convergence Control / SONY } / IC5513 (D-board) / P/N: 8-759-595-52 (SB#: V1718)
Slave Address: DEh

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial Settings & [Average Data] (32V&36V CRTs)			Comment
					Full	Vcomp1	Vcomp2	
0	**SBHS**	DC AMP3: DC shift	Adj.	0~63	31 [31]	31 [31]		Full: 480p/960i (4x3) display mode Vcomp1: 480p/960i (16x9) display mode Vcomp2: 1080i (16x9) display mode Adj.: Adjusted data From the system micro (V 2.0), the deflection control-related initial settings are the same as their average data.
1	**YBWU**	VCA9: Upper Y-bow	Adj.	0~63	31 [31]	31 [31]		
2	**YBWL**	VCA10: Lower Y-bow	Adj.	0~63	31 [31]	31 [31]		
3	**RSAP**	DC AMP2: Right H-AMP	Adj.	0~63	31 [31]	31 [31]		
4	**RUBW**	VCA5: Right upper bow	Adj.	0~63	31 [31]	31 [31]		
5	**RLBW**	VCA6: Right lower bow	Adj.	0~63	31 [31]	31 [31]		
6	**LSAP**	DC AMP1: Left H-AMP	Adj.	0~63	31 [31]	31 [31]		
7	**LUBW**	VCA1: Left upper bow	Adj.	0~63	31 [31]	31 [31]		
8	**LLBW**	VCA2: Left lower bow	Adj.	0~63	31 [31]	31 [31]		
9	**CADJ**	DC AMP4: Offset adjustment (ADJ)	Adj.	0~63	48 [48]			
10	**CPY2**	Copy Function 2: (Set CPY2=1, then press MUTE + Enter.)	Micro	0, 1	0			For engineering design use only

Note:
The same CXA8070 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#7): CXA2026AS

Device Name: CXA2026AS { DQP Control / SONY } / IC5511 (D-board) / P/N: 8-752-074-64 (SD#: S95610B)
Slave Address: 8Eh

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial Settings & [Average Data] (32V&36V CRTs)			Comment
					Full	Vcomp1	Vcomp2	Full: 480p/960i (4x3) display mode Vcomp1: 480p/960i (16x9) display mode Vcomp2: 1080i (16x9) display mode C: Common data Adj.: Adjusted data
0	**DFON**	SW0: DF on/off switch	C	0, 1	0			
1	**DQP**	PWM: DQP phase	Adj.	0~63	23 [23]	23 [23]		
2	**DF**	DAC1: DF phase	Adj.	0~63	25 [25]	25 [25]		
3	**DQPD**	H.AMP: DQP dc-level	Adj.	0~63	34 [34]	34 [34]		
4	**QPDV**	U.CBOW, L.CBOW: DQP dc-level vertical modulation		0~63	51	47		U.CBOW = QPDV + DVS L.CBOW = QPDV - DVS
5	**DVS**	U.CBOW, L.CBOW: DQP dc-level tilt		0~(3)~7	0	0		
6	**QPDY**	U.MBH,L.MBH: DQP dc-level at top & bottom areas		0~63	7	7		( ): Settings at center
7	**DQPA**	DC SHIFT: DQP amplitude	Adj.	0~63	22 [27] (32V) or 13 [15] (36V)	22 [27] (32V) or 13 [15] (36V)	22 [27] (32V) or 13 [15] (36V)	Data (36V) are used as Initial/CBA data. From the system micro (V 2.0), most deflection control-related initial settings are the same as their average data.
8	**QPAV**	U.YBOW, LYBOW: DQP amplitude vertical modulation		0~63	38	34		U.YBOW = QPAV + AVS L.YBOW = QPAV - AVS
9	**AVS**	U.YBOW, LYBOW: DQP amplitude tilt		0~7	3	3		
10	**NORM**	SW1:		0, 1	0	0		
11	**CPY3**	Copy Function 3: (Set CPY3=1, then press MUTE + Enter.)	Micro	0, 1	0			For engineering design use only
12	**200V**	H.DUTY, H.TILT: 200V regulator adjustment	Adj.	0~63	31 [31]			

Note:
The same CXA2026 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#8): Audio Processing (AP) / BH3868AFS

Device Name: BH3868AFS { Audio Processor / ROHM } / IC7001 (A-board) / P/N: 8-759-678-92 (SBorSD#: NA)
Slave Address: 82h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)	Comment
0	**SVOL**	Volume: Offset for Volume		0~3	0	
1	**SBAL**	Balance: Offset for Balance		0~(3)~7	7	( ): Settings at center
2	**SBAS**	Bass: Offset for Bass		0~(3)~7	7	
3	**STRE**	Treble: Offset for Treble		0~(3)~7	7	
4	**BBLP**	BBE lowpass filter		0~15	0	
5	**BBHP**	BBE highpass filter		0~15	2	
6	**SREF**	Surround effect		0~7	11	
7	**AGC**	Auto gain control		0, 1	0	
8	**BBE**	BBE on/off		0, 1	1	

Note:
The same AP service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#9): TruSurround (TRUS) / NJM2180

Device Name: NJM2180M { TruSurround 3D-Audio Processor / JRC } / IC4101 (S-board) / P/N: 8-759-686-15 (SB#: V9072)
Device Control: Controlled via CXA1315M (Audio Control D/A, IC4103/S-board, Slave Address: 48h) / P/N: 8-752-059-23 (SD#: S88Z45B)

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)	Comment
0	**TS**	TruSurround effect selection		0~3	2	C: Common data
1	**DMY1**	Dummy data (No functions)	C	0~255	0	DMY1 is used to fulfil the minimum requirement of 2 control items in each service control category.

Note:
The same TRUS service data is used for DX1A-2001&2000.

DX1A-2001* SERVICE LIST (#10): MID1 (Common Data)

Device Name: CXD9509AQ { MID-XA / Fujitsu & SONY } / IC3408 (B-board) / P/N: 8-759-672-57 (SBorSD#: NA)
Slave Address: 2Eh { Controlled through MID-XA Micro (IC3090/B-board, Slave Address: 64h) / P/N: 6-800-050-01 (SB#: V4216) }
MID-XA Micro (MASK type): MB94918RPF-G-137-BND, MID-XA Software: Version 12/08/00, (P/N: 6-800-050-01)

Register No & Name		Control Register Function & Link	Register Name (Software)	Data Type	Data Range	Data Initial/Average Setting (32V/36V/40V CRTs)			Comment
						MID Mode: All (Single & P&P & Favorite)			
0	**DHPH**	Horizontal phase of the active display area	d_h_phase	C	0~255	91			C: Common data
1	**DVPH**	Vertical phase of the active display area	d_v_phase	C	0~63	20			
2	**DHAR**	Horizontal size of the active display area	d_h_area	C	0~255	240			
3	**DVAR**	Vertical size of the active display area	d_v_area	C	0~255	135			
4	**DHPW**	Horizontal pulse width	d_h_pwidth	C	0~63	27			
5	**DVPW**	Vertical pulse width	d_v_pwidth	C	0~7	7			
6	**DYCD**	Delay of YC signal output	d_yc_delay	C	0~63	2			
7	**DYSD**	Delay of YS signal output	d_ys_delay	C	0~7	1			
						MID Mode: Signle & Favorite			
						Single 480i&p	Single 1080i	Favorite	
8	**MDHP**	Horizontal position of the main picture	m_dsp_hpos		0~255	33		12	
9	**MDVP**	Vertical position of the main picture	m_dsp_vpos		0~255	32	8	14	
10	**MDHS**	Horizontal size of the main picture	m_dsp_hsiz		0~255	230		158	
11	**MDVS**	Vertical size of the main picture	m_dsp_vsiz		0~255	120	135	106	
						MID Mode: P&P & Favorite			
12	**MLHP**	(Horizontal position of the multi pictures)			0~255	54			
13	**MLVP**	(Vertical position of the multi pictures)			0~255	31			
						MID Mode: Favorite			
14	**SDHP**	Horizontal position of the sub picture	s_dsp_hpos		0~255	172			
15	**SDVP**	Vertical position of the sub picture	s_dsp_vpos		0~255	14			
16	**SDHS**	Horizontal size of the sub picture	s_dsp_hsiz		0~255	61			
17	**SDVS**	Vertical size of the sub picture	s_dsp_vsiz		0~255	41			
						MID Mode: All (Single & P&P & Favorite)			
18	**DPSW**	Switch of display output PLL	dsp_pll_sw	C	0, 1	0			0: MUST be used in DX1A-2001, 1: Used in DX1A-2000
19	**MDL0**	Model selection 0 (0: 16x9, 1: 4x3)		C	0, 1	0			

Note:
* These MID1 settings are used for DX1A-2001 ONLY. The DPSW setting was changed from 1 in DX1A-2000 to 0 in DX1A-2001.

DX1A-2001&2000 SERVICE LIST (#11): MID2 (DRC-in Data)

Device Name: CXD9509AQ { MID-XA / Fujitsu & SONY } / IC3408 (B-board) / P/N: 8-759-672-57 (SBorSD#: NA)
Slave Address: 2Eh { Controlled through MID-XA Micro (IC3090/B-board, Slave Address: 64h) / P/N: 6-800-050-01 (SB#: V4216) }
MID-XA Micro (MASK type): MB94918RPF-G-137-BND, MID-XA Software: Version 12/08/00, (P/N: 6-800-050-01)

Register No & Name		Control Register Function & Link	Register Name (Software)	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)						
						MID Mode: Single		MID Mode: P&P & Favorite			MID Mode: Freeze	
						YC 480i	YPbPr 480i	YC 480i	YPbPr 480i	YC 480i-(R)	YC 480i	YPbPr 480i
0	**DRHP**	Horizontal position of the active display area (DRC-in	drc_hactv_pos		0~255	120	116	131	129	137	138	136
1	**DRHS**	Hsize of the active display area (DRC-in)	drc_hactv_siz		0~255	174	174	167	167	168	165	165
2	**DRVP**	Vposition of the active display area (DRC-in)	drc_vactv_pos		0~63	38	38	53	53	53	53	53
3	**DRVS**	Vertical size of the active display area (DRC-in)	drc_vactv_siz		0~255	120	120	112	112	112	112	112

Note:
The same MID2 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#12): MID3 (VDO-in Data) (Part-1/2)

Device Name: CXD9509AQ { MID-XA / Fujitsu & SONY } / IC3408 (B-board) / P/N: 8-759-672-57 (SBorSD#: NA)
Slave Address: 2Eh { Controlled through MID-XA Micro (IC3090/B-board, Slave Address: 64h) / P/N: 6-800-050-01 (SB#: V4216) }
MID-XA Micro (MASK type): MB94918RPF-G-137-BND, MID-XA Software: Version 12/08/00, (P/N: 6-800-050-01)

Register No & Name		Control Register Function & Link	Register Name (Software)	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)				Comment
						MID Mode: Single				
							YPbPr 480P		Dummy 480i	Dummy-480i settings are used for No Signal cases.
0	**VDHP**	Horizontal position of the active display area (VDO-in)	vdo_hactv_pos		0~255		122		179	
1	**VDHS**	Horizontal pixel size of the active display area (VDO-in)	vdo_hactv_pos		0~255		159		199	These settings continue to the next page.
2	**VDVE**	Vertical even position of the active display area (VDO-in)	vdo_vactv_evn		0~63		39		24	
3	**VDVS**	Vertical line size of the active display area (VDO-in)	vdo_vactv_pos		0~255		129		56	
						YC 480i	YPbPr 480P	YPbPr 1080i	Dummy 480i	
4	**VDVO**	Vertical odd position of the active display area (VDO-in)	vdo_vactv_odd		0~3	0	0	0	0	
5	**VCPO**	Clamp pulse output timing (VDO-in)	vdo_clp_pos		0~255	95	70	40	90	
6	**VCWD**	Clamp pulse width (VDO-in)	vdo_clp_wdt		0~7	3	3	3	3	
7	**VYCD**	Analog input YC delay (VDO-in)	vdo_yc_delay		0~63	0	0	0	0	
							YPbPr 480P	YPbPr 1080i		
8	**VSTP**	PD stop line count of external PLL (VDO-in)	vdo_pll_stop		0~255		119	160		
9	**VSTT**	PD start line count of external PLL (VDO-in)	vdo_pll_strt		0~15		7	0		
						MID Mode: All (Single & P&P & Favorite)				
10	**VHSC**	Horizontal sync cycle (VDO-in)	vdo_hsync_cyc		0~255	130				

Note:
The same MID3 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#12): MID3 (VDO-in Data) (Part-2/2)

Register No & Name	Data Initial Setting (32V&36V CRTs)				Data Initial Setting (32V&36V CRTs)			Comment
	MID Mode: P&P / Favorite				MID Mode: FREEZE			
	YC 480i	YPbPr 480P	YPbPr 1080i	Dummy 480i	YPbPr 480P	YPbPr 1080i	Dummy 480i	Dummy-480i settings are used for No Signal cases.
#0 **VDHP (cont.)**	197	127	91	179	131	98	179	
#1 **VDHS (cont.)**	219	154	151	199	153	149	199	
#2 **VDVE (cont.)**	24	53	37	24	53	37	24	
#3 **VDVS (cont.)**	56	112	126	56	112	126	56	

Note:
The same MID3 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#13): MID5 (Picture Data: MIDE) (Part-1/4)

Device Name: CXD9509AQ { MID-XA / Fujitsu & SONY } / IC3408 (B-board) / P/N: 8-759-672-57 (SBorSD#: NA)
Slave Address: 2Eh { Controlled through MID-XA Micro (IC3090/B-board, Slave Address: 64h) / P/N: 6-800-050-01 (SB#: V4216) }
MID-XA Micro (MASK type): MB94918RPF-G-137-BND, MID-XA Software: Version 12/08/00, (P/N: 6-800-050-01)

Register No & Name		Control Register Function & Link	Register Name (Software)	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)				Data Initial/Average Setting (32V&36V CRTs)				
						UHF/VHF & CVideo				YPbPr-480i (DVD)				
		Settings for P&P (Main)				Pro	Movie	Standard	Vivid	Pro	Movie	Standard	Vivid	
0	**POP**	Selection of service data tables (Table #: 0~15)			0~15	0	1	2	3	4	5	6	7	
1	**MHLY**	Y coefficient code of Horizontal LPF (M)	m_hlpf_ycoef		0~3	1	1	1	1	1	1	1	1	
2	**MHLC**	C coefficient code of Horizontal LPF (M)	m_hlpf_ccoef		0~3	3	3	3	3	3	3	3	3	
3	**MVLY**	Y coefficient code of Vertical LPF (M)	m_vlpf_ycoef		0~3	0	0	0	0	0	0	0	0	
4	**MVLC**	C coefficient code of Vertical LPF (M)	m_vlpf_ccoef		0~3	0	0	0	0	0	0	0	0	
5	**MHYR**	Y coreing code of horizontal enhancement (M)	m_henh_ycore		0~3	0	0	0	0	0	0	0	0	
6	**MHYL**	Y cliping code of horizontal enhancement (M)	m_henh_yclip		0~3	1	1	1	1	1	1	1	1	
7	**MHYE**	Y level code of horizontal enhancement (M)	m_henh_yenh		0~7	4	0	0	0	3	0	0	0	See the next page.
8	**MHYO**	Y coefficient code of horizontal enhancement (M	m_henh_ycof		0, 1	1	1	1	1	1	1	1	1	
9	**MHCR**	C coreing code of horizontal enhancement (M)	m_henh_ccore		0~3	0	0	0	0	0	0	0	0	
10	**MHCL**	C cliping code of horizontal enhancement (M)	m_henh_cclip		0~3	1	1	1	1	1	1	1	1	
11	**MHCE**	C level code of horizontal enhancement (M)	m_henh_cenh		0~7	0	0	0	0	0	0	0	0	
12	**MHCO**	C coefficient code of horizontal enhancement (M	m_henh_ccof		0, 1	1	1	1	1	1	1	1	1	
13	**MVYR**	Y coreing code of vertical enhancement (M)	m_venh_ycore		0~3	0	0	0	0	0	0	2	2	
14	**MVYL**	Y cliping code of vertical enhancement (M)	m_venh_yclip		0~3	1	1	1	1	1	1	1	1	
15	**MVYE**	Y level code of vertical enhancement (M)	m_venh_yenh		0~7	0	0	0	0	0	0	2	5	
16	**MVCR**	C coreing code of vertical enhancement (M)	m_venh_ccore		0~3	0	0	0	0	0	0	0	0	
17	**MVCL**	C cliping code of vertical enhancement (M)	m_venh_cclip		0~3	1	1	1	1	1	1	1	1	
18	**MVCE**	C level code of vertical enhancement (M)	m_venh_cenh		0~7	0	0	0	0	0	0	0	0	

Note:
The same MID5 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#13): MID5 (Picture Data: MIDE) (Part-2/4)

Register No & Name	Data Initial/Average Setting (32V&36V CRTs)				Data Initial/Average Setting (32V&36V CRTs)				Comment
	YPbPr-480p				YPbPr-1080i				
	Pro	Movie	Standard	Vivid	Pro	Movie	Standard	Vivid	
#0 **POP (cont.)**	8	9	10	11	12	13	14	15	
#1 **MHLY (cont.)**	1	1	1	1	1	1	1	1	
#2 **MHLC (cont.)**	3	3	3	3	3	3	3	3	
#3 **MVLY (cont.)**	0	0	0	0	0	0	0	0	
#4 **MVLC (cont.)**	0	0	0	0	0	0	0	0	
#5 **MHYR (cont.)**	0	0	0	0	0	0	0	0	
#6 **MHYL (cont.)**	1	1	1	1	1	1	1	1	
#7 **MHYE (cont.)**	4	0	0	0	4	0	0	0	
#8 **MHYO (cont.)**	1	1	1	1	1	1	1	1	
#9 **MHCR (cont.)**	0	0	0	0	0	0	0	0	
#10 **MHCL (cont.)**	1	1	1	1	1	1	1	1	
#11 **MHCE (cont.)**	0	0	0	0	0	0	0	0	
#12 **MHCO (cont.)**	1	1	1	1	1	1	1	1	
#13 **MVYR (cont.)**	0	0	2	2	0	0	0	0	
#14 **MVYL (cont.)**	1	1	1	1	1	1	1	1	
#15 **MVYE (cont.)**	0	0	2	5	0	0	0	0	
#16 **MVCR (cont.)**	0	0	0	0	0	0	0	0	
#17 **MVCL (cont.)**	1	1	1	1	1	1	1	1	
#18 **MVCE (cont.)**	0	0	0	0	0	0	0	0	

Note:
The same MID5 service data are used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#13): MID5 (Picture Data: MIDE) (Part-3/4)

Register No.&Name		Control Register Function & Link	Register Name (Software)	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)				Data Initial/Average Setting (32V&36V CRTs)				
		Settings for P&P (Sub)				UHF/VHF & CV				YPbPr-480i (DVD)				
						Pro	Movie	Standard	Vivid	Pro	Movie	Standard	Vivid	
0	**POP**	Selection of service data tables (Table #: 0~15)			0~15	0	1	2	3	4	5	6	7	
19	**SHLY**	Y coefficient code of Horizontal LPF (S)	s_hlpf_ycoef		0~7	0	0	0	0	0	0	0	0	
20	**SHLC**	C coefficient code of Horizontal LPF (S)	s_hlpf_ccoef		0~7	0	0	0	0	0	0	0	0	
21	**SVLY**	Y coefficient code of Vertical LPF (S)	s_vlpf_ycoef		0~7	0	0	0	0	0	0	0	0	
22	**SVLC**	C coefficient code of Vertical LPF (S)	s_vlpf_ccoef		0~7	0	0	0	0	0	0	0	0	
23	**SHYR**	Y coreing code of horizontal enhancement (S)	s_henh_ycore		0~3	0	0	0	0	0	0	0	0	
24	**SHYL**	Y cliping code of horizontal enhancement (S)	s_henh_yclip		0~3	0	0	0	0	0	0	0	0	
25	**SHYE**	Y level code of horizontal enhancement (S)	s_henh_yenh		0~7	0	0	0	0	0	0	0	0	
26	**SHYO**	Y coefficient code of horizontal enhancement (S	s_henh_ycof		0, 1	0	0	0	0	0	0	0	0	
27	**SHCR**	C coreing code of horizontal enhancement (S)	s_henh_ccore		0~3	0	0	0	0	0	0	0	0	
28	**SHCL**	C cliping code of horizontal enhancement (S)	s_henh_cclip		0~3	0	0	0	0	0	0	0	0	
29	**SHCE**	C level code of horizontal enhancement (S)	s_henh_cenh		0~7	0	0	0	0	0	0	0	0	
30	**SHCO**	C coefficient code of horizontal enhancement (S	s_henh_ccof		0, 1	0	0	0	0	0	0	0	0	
31	**SVYR**	Y coreing code of vertical enhancement (S)	s_venh_ycore		0~3	0	0	0	0	0	0	0	0	
32	**SVYL**	Y cliping code of vertical enhancement (S)	s_venh_yclip		0~3	0	0	0	0	0	0	0	0	
33	**SVYE**	Y level code of vertical enhancement (S)	s_venh_yenh		0~7	0	0	0	0	0	0	0	0	
34	**SVCR**	C coreing code of vertical enhancement (S)	s_venh_ccore		0~3	0	0	0	0	0	0	0	0	
35	**SVCL**	C cliping code of vertical enhancement (S)	s_venh_cclip		0~3	0	0	0	0	0	0	0	0	
36	**SVCE**	C level code of vertical enhancement (S)	s_venh_cenh		0~7	0	0	0	0	0	0	0	0	

See the next page.

Note:
The same MID5 service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#13): MID5 (Picture Data: MIDE) (Part-4/4)

Register No.&Name	Data Initial/Average Setting (32V&36V CRTs)				Data Initial/Average Setting (32V&36V CRTs)				Comment
	YPbPr-480p				YPbPr-1080i				
	Pro	Movie	Standard	Vivid	Pro	Movie	Standard	Vivid	
#0 **POP (cont.)**	8	9	10	11	12	13	14	15	
#19 **SHLY (cont.)**	0	0	0	0	0	0	0	0	
#20 **SHLC (cont.)**	0	0	0	0	0	0	0	0	
#21 **SVLY (cont.)**	0	0	0	0	0	0	0	0	
#22 **SVLC (cont.)**	0	0	0	0	0	0	0	0	
#23 **SHYR (cont.)**	0	0	0	0	0	0	0	0	
#24 **SHYL (cont.)**	0	0	0	0	0	0	0	0	
#25 **SHYE (cont.)**	0	0	0	0	0	0	0	0	
#26 **SHYO (cont.)**	0	0	0	0	0	0	0	0	
#27 **SHCR (cont.)**	0	0	0	0	0	0	0	0	
#28 **SHCL (cont.)**	0	0	0	0	0	0	0	0	
#29 **SHCE (cont.)**	0	0	0	0	0	0	0	0	
#30 **SHCO (cont.)**	0	0	0	0	0	0	0	0	
#31 **SVYR (cont.)**	0	0	0	0	0	0	0	0	
#32 **SVYL (cont.)**	0	0	0	0	0	0	0	0	
#33 **SVYE (cont.)**	0	0	0	0	0	0	0	0	
#34 **SVCR (cont.)**	0	0	0	0	0	0	0	0	
#35 **SVCL (cont.)**	0	0	0	0	0	0	0	0	
#36 **SVCE (cont.)**	0	0	0	0	0	0	0	0	

Note:
The same MID5 service data are used for DX1A-2001&2000.

DX1A-2001* SERVICE LIST (#14): On-Screen Display (OSD)

Device Name: M306V2ME-153FP (V1.0) { System Micro (MASK type) / Mitsubishi } / IC701 (A-board)
Slave Address: 60h

System Micro (MASK type): M306V2ME-153FP, Sys-Software: Version 1.0, P/N: 6-800-051-01 (SB#: V9091)

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)	Comment
0	**HPOS**	OSD horizontal position	C	0~255	23	C: Common data
1	**HPOF**	Horizontal position for Favorite mode	C	0~255	33	
2	**VPOS**	OSD vertical position	C	0~255	5	
3	**VPOT**	Vertical position for P&P (Twin) mode	C	0~255	32	

Note:
* This OSD settings are used for DX1A-2001 ONLY. (DX1A-2000 uses two OSD settings based on two versions of system micros.)

DX1A-2001&2000 SERVICE LIST (#15): SNNR

Related Control Devices:
mPD64082 { 3D-Comb / NEC } / IC3501 (BC-board) / Slave Address: B8h
CXA2103Q { Chroma Decoder / SONY } / IC3048 (B-board) / Slave Address: 9Ah (Main)
CXA2150Q { CRT Driver / SONY } / IC201 (A-board) / Slave Address: 86h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting 32V&36V CRTs				Comment
0	**SNNR**	SNNR data setting		0~3	0				
1	**SNFX**	Selection of SNNR data settings; 0: Set SNNR automatically according to WSLT value (read data)	C	0, 1	0				C: Comon data
					WSLT Data / Threthold Range				
2	**WSLT**	Noise level detection data thretholds for SNNR data (read data)		0~255	0~30	31~62	63~126	127~255	
		SNNR data used as the (-) offset settings			**SNNR Settings Based on WSL Data (- Offset Data)**				
		SNNR = 0/1/2/3 @ WSLT £ 0/31/63/127, respectively		0~3	0	1	2	3	
3	**CPFG**	Related to 3D-COMB (mPD64082) / #19 **YPFG** settings		------	0	1	2	3	
4	**CPFT**	Related to 3D-COMB (mPD64082) / #18 **YPFT** settings		------	0	0	0	0	
		SNNR data used as the direct settings		------					
5	**CCOR**	Related to 3D-COMB (mPD64082) / #20 **YHCO** settings		------	0	1	1	1	
6	**CHCG**	Related to 3D-COMB (mPD64082) / #21 **YHCG** settings		------	1	1	1	1	
		SNNR data used as the (-) offset settings							
7	**CAPG**	Related to 3D-COMB (mPD64082) / #16 **VAPG** settings		------	0	0	0	0	
8	**3SHP**	Related to CXA2103 / #6 **SHAP** settings		------	0	1	2	3	
9	**MIDD**	Related to CXA2150P-3 / #19 **MIDE** settings		------	0	1	2	3	
10	**5SHP**	Related to CXA2150P-4 / #4 **USHP** settings		------	0	1	3	4	
11	**5YF1**	Related to CXA2150P-3 / #10 **F1LV** settings		------	0	1	2	3	
12	**5CDS**	Related to CXA2150P-3 / #11 **CDSP** settings		------	0	0	0	0	
13	**5LTI**	Related to CXA2150P-3 / #12 **LTLV** settings		------	0	0	0	0	
14	**5CTI**	Related to CXA2150P-3 / #14 **CTLV** settings		------	0	0	0	0	
15	**5VML**	Related to CXA2150P-3 / #1 **UVML** settings		------	0	0	0	0	
		SNNR data used as the (+) offset settings			**SNNR Settings Based on WSL Data (+ Offset Data)**				
16	**5VMC**	Related to CXA2150P-3 / #3 **VMCR** settings		------	0	+ 1	+ 2	+ 3	

Note:
The same SNNR service data is used for DX1A-2001&2000.
Please refer to the part numbers and SBorSD numbers given in the service list for these devices.

DX1A-2001&2000 SERVICE LIST (#16): ID-1 Detection (ID1)

Device Name: CXD2085M { ID-1 Decoder / SONY } / IC3603 (B-board) / P/N: 8-752-395-13 (SD#: S98511B)
Slave Address: 40h

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)	Comment
0	**XJGL**	XJGLK: Setting for memorizing or not the ID-1 detection status	C	0, 1	0	C: Common data
1	**LNJI**	LNJ1: Setting for the multi/single-line ID-1 detection	C	0, 1	0	

Note:
The same ID1 service data are used for DX1A-2001&2000.
Other servcie controls related to CXD2085 (IDSW & DATA) are lised in Service List (CXA2150P-4) for easier engineering adjustment.

DX1A-2001&2000 SERVICE LIST (#17): Closed Caption Display & Parental Control (CCD&VCHIP)

Device Name: CXP85840A-039Q { CCD&Vchip Micro (MASK type) / SONY } / IC3602 (Main) & IC3601 (Sub) (B-board) / P/N: 8-752-916-40 (SD#: S97739B)
Slave Address: 68h (Main) & 6Ch (Sub)
CCD&Vchip Micro Software: Version 2.14

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)	Comment
0	**HPRM**	Horizontal position of CCD (Main)	C	0~255	46	C: Common data
1	**HPRS**	Horizontal position of CCD (Sub)	C	0~255	46	
2	**RND**	OSD rounding control	C	0, 1	1	
3	**CCDI**	Interuption cointrol	C	0~7	3	
4	**CRIP**	CRI count & parity count	C	0~7	4	
5	**CRIT**	Charge/Discharge timing control for slice voltage level	C	0, 1	0	0: MASK-type micro, 1: OTP-type micro
6	**CHMK**	Horizontal mask width	C	0~63	42	
7	**FPOL**	Field polarity selection	C	0, 1	1	
8	**LANG**		C	0~3	0	
9	**DATA**	Switch for CCD service/test data	C	0, 1	0	
10	**VCHIP**	Selection of Vchip controls	C	0, 1	0	

Note:
The same CCD&VCHIP service data is used for DX1A-2001&2000.

DX1A-2001&2000 SERVICE LIST (#18): OPTIONS (OP)

Device Name: M306V2ME-153FP (V1.0) { System Micro (MASK type) / Mitsubishi } / IC701 (A-board)
Slave Address: 60h

System Micro (MASK type): M306V2ME-153FP, Sys-Software: Version 1.0, P/N: 6-800-051-01 (SB#: V9091)

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V&36V CRTs)	Comment
0	**DLY1**	AC-RLY to MAIN-RLY timing = DLY1 x 50 ms	C	0~15	4	C: Common data
1	**DLY2**	Power-On Mute timing = DLY2 x 50 ms	C	0~31	12	
2	**DLY3**	DGC-RLY to MAIN-RLY timing = DLY3 x 50 ms	C	0~15	7	
3	**RAMW**	RAM monitor on/off	C	0, 1	0	

Note:
The same OP service data is used for DX1A-2001&2000.

DX1A-2001* SERVICE LIST (#19): IDENTIFICATION (ID)

Device Name: M306V2ME-153FP (V1.0) { System Micro (MASK type) / Mitsubishi } / IC701 (A-board)
Slave Address: 60h

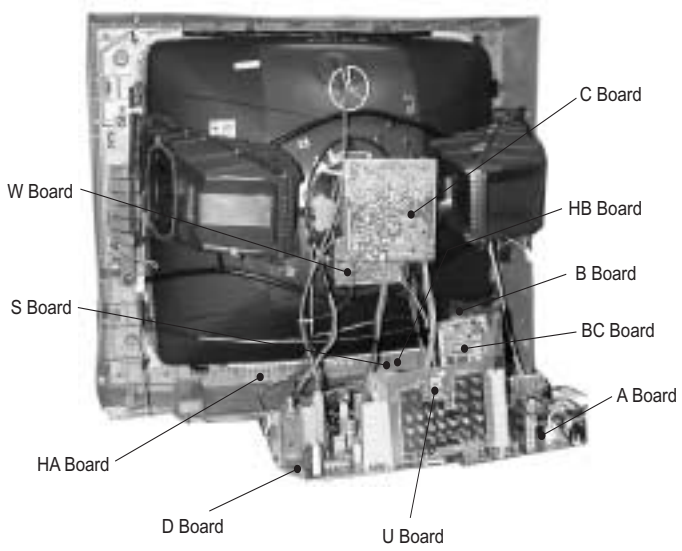
System Micro (MASK type): M306V2ME-153FP, Sys-Software: Version 1.0, P/N: 6-800-051-01 (SB#: V9091)

Register No & Name		Control Register Function & Link	Data Type	Data Range	Data Initial/Average Setting (32V/36V/40V CRTs)			Comment
		Shipping Destination-related Settings			KV-32HS20 KV-36HS20 KV-32HS20H	KV-32XBR450 KV-36XBR450 KV-36XBR450H	KV-32XBR450C KV-36XBR450C	
0	**ID0**	Selection of OSD languages & color systems		0~255	89	89	89	
1	**ID1**	Selection of composite & s-video inputs		0~255	127	127	127	
2	**ID2**	Selection of audio-related controls		0~255	239	255	255	
3	**ID3**	Selection of basic system settings		0~255	98	106	90	
4	**ID4**	Selection of basic system settings		0~255	203	203	203	
5	**ID5**	Selection of advanced system settings		0~255	177	177	177	
6	**ID6**	Selection of sub picture-related settings		0~255	54	54	54	
7	**ID7**	Selection of some reserved settings		0~255	24	24	24	

Note:
* These ID settings are used for DX1A-2001 ONLY. (DX1A-2000 uses different ID settings.)
The system micro name, software&patch versions, and the status of NVM devices are displayed only when in this service catergory (#19): ID.

SECTION 5: DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



The components identified by shading and ⚠ symbol are critical for safety. Replace only with part number specified.

The symbol ▬ indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

Les composants identifies par un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

Le symbole ▬ indique une fusible a action rapide. Doit etre remplace par une fusible de meme yaleur, comme maque.

The components identified by ⋈ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be necessary, replace only with the value originally used (Refer to Safety Related Adjustments on page 17).

When replacing components identified by ◪, make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by ⋈ and repeat the adjustment until the specified value is achieved.

When replacing the parts listed in the table below, it is important to perform the related adjustments.

Part Replaced (◪)	Adjustment (⋈)
D BOARD: D8004, D8014, IC6503, IC8001, IC8003, IC8004, R6590, R8016, R8021, R8028, R8041, R8042, R8044, R8072, R8073, R8074, R8077, R8078, R8080, R8081, R8082, R8091, R8095	D BOARD: RV8001, RV8002

5-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. K = 1000, M = 1000K.

Indication of resistance, which does not have one for rating electrical power, is as follows: Pitch : 5mm

Rating electrical power : $^1/_4$ W

$^1/_4$ W in resistance, $^1/_{10}$ W and $^1/_8$ W in chip resistance.

: nonflammable resistor.

: fusible resistor.

△ : internal component.

▭ : panel designation and adjustment for repair.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a color-bar signal input.

Readings are taken with a 10M digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.

S : Measurement impossibillity.

▬ ▬ ▬ : B+line.

▬ ▬ ▬ V : B-line. (Actual measured value may be different).

⇨ : signal path. (RF)

Circled numbers are waveform references.

REFERENCE INFORMATION

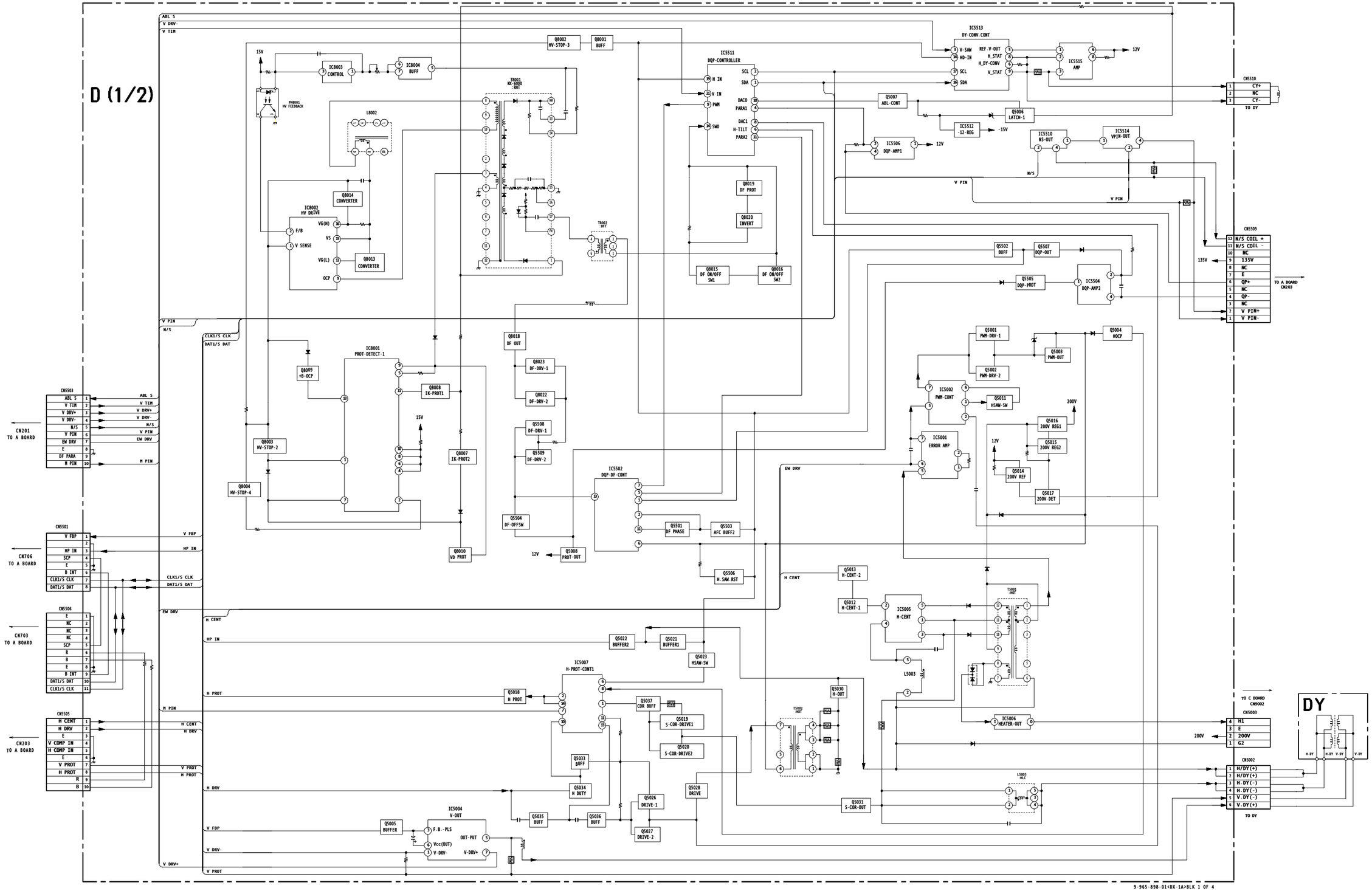
RESISTOR
- **: RN METAL FILM**
- **: RC SOLID**
- **: FPRD NONFLAMMABLE CARBON**
- **: FUSE NONFLAMMABLE FUSIBLE**
- **: RW NONFLAMMABLE WIREWOUND**
- **: RS NONFLAMMABLE METAL OXIDE**
- **: RB NONFLAMMABLE CEMENT**
- **: ※ ADJUSTMENT RESISTOR**

CAPACITOR
- **: TA TANTALUM**
- **: PS STYROL**
- **: PP POLYPROPYLENE**
- **: PT MYLAR**
- **: MPS METALIZED POLYESTER**
- **: MPP METALIZED POLYPROPYLENE**
- **: ALB BIPOLAR**
- **: ALT HIGH TEMPERATURE**
- **: ALR HIGH RIPPLE**

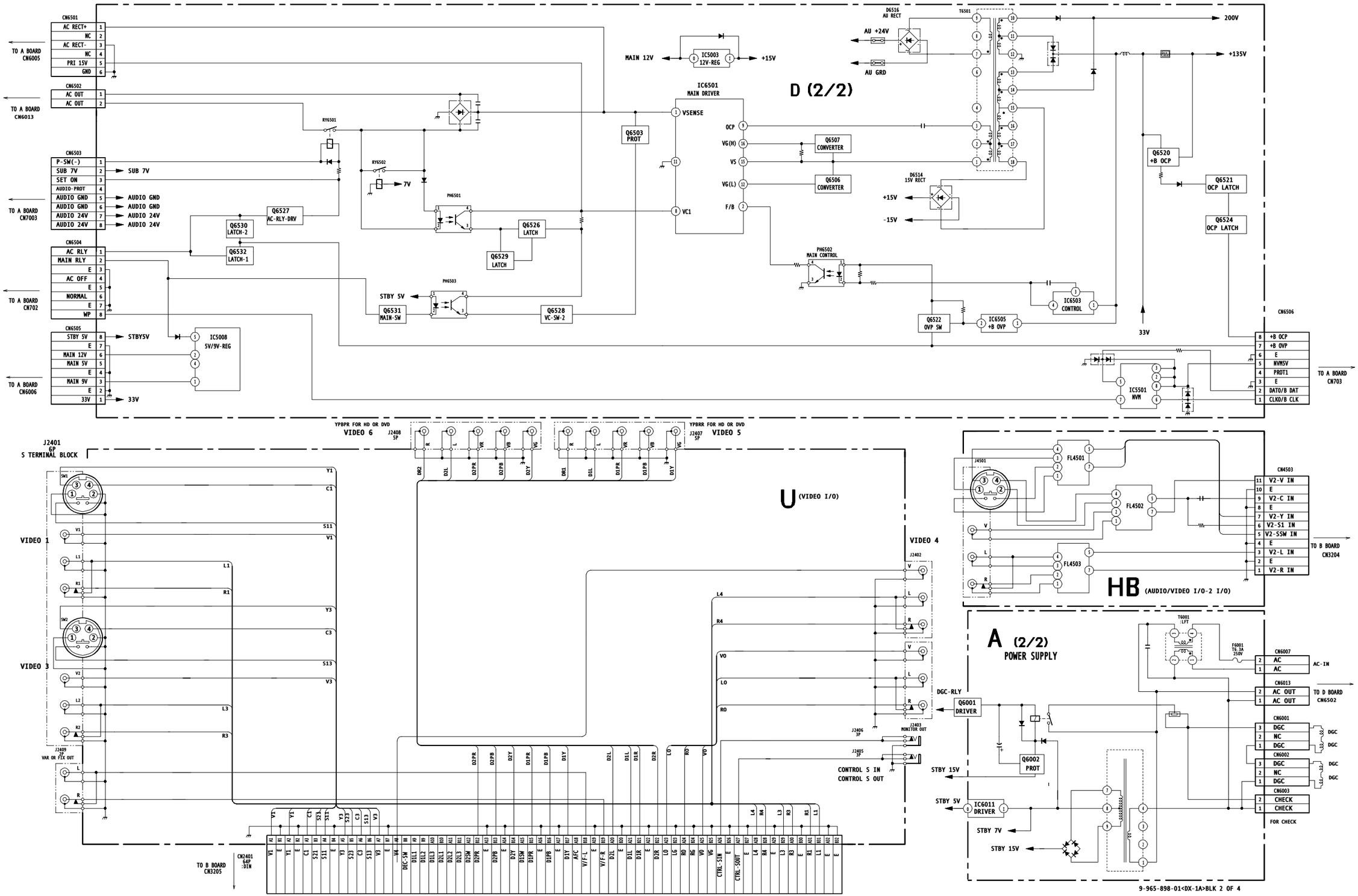
COIL
- **: LF-8L MICRO INDUCTOR**

BLOCK DIAGRAM (1 OF 4)

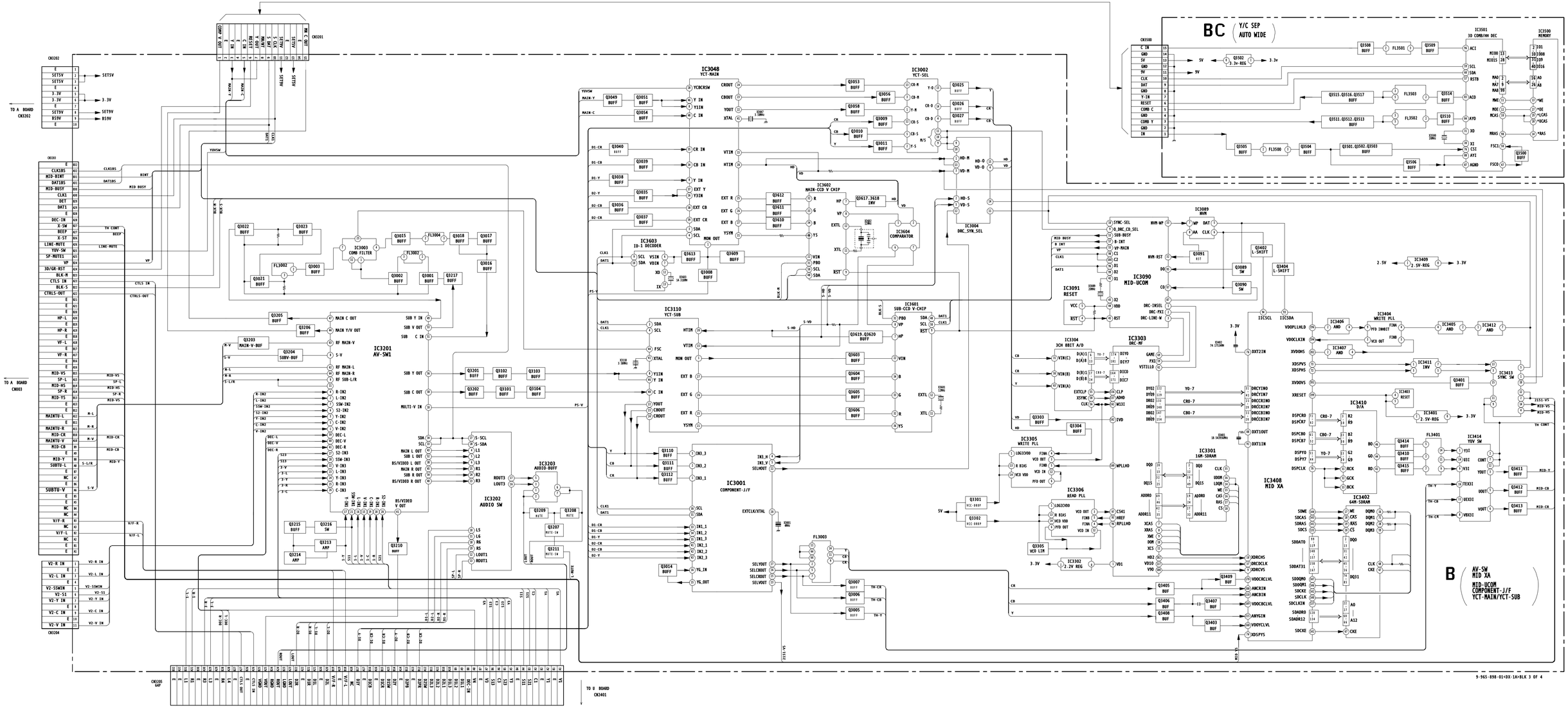
D (1/2)



9-965-898-01<DX-1A>BLK 1 OF 4


D (2/2)
U (VIDEO I/O)
HB (AUDIO/VIDEO I/O-2 I/O)
A (2/2) POWER SUPPLY
CN6501
CN6502
CN6503
CN6504
CN6505
CN6506
IC6501 MAIN DRIVER
IC5003 12V-REG
IC5008 5V/9V-REG
IC6503 CONTROL
IC6505 +B OVP
IC6011 DRIVER
IC5501 NVM
Q6503 PROT
Q6507 CONVERTER
Q6506 CONVERTER
Q6520 +B OCP
Q6521 OCP LATCH
Q6524 OCP LATCH
Q6522 OVP SW
Q6526 LATCH
Q6529 LATCH
Q6527 AC-RLY-DRV
Q6530 LATCH-2
Q6532 LATCH-1
Q6531 MAIN-SW
Q6528 VC-SW-2
Q6001 DRIVER
Q6002 PROT
PH6501
PH6502 MAIN CONTROL
PH6503
RY6501
RY6502
D6516 AU RECT
D6514 15V RECT
T6501
T6001 -LFT
F6001 T6.3A 250V
FL4501
FL4502
FL4503
J2401 6P S TERMINAL BLOCK
J2402
J2403 MONITOR OUT
J2404 3P
J2405 3P
J2406 3P
J2407 5P
J2408 5P
J2409 2P VAR OR FIX OUT
CN2401 64P :DIN
CN4503
MAIN 12V
+15V
AU +24V
AU GRD
200V
+135V
33V
STBY 5V
STBY5V
7V
-15V
VIDEO 1
VIDEO 3
VIDEO 4
VIDEO 5
VIDEO 6
YPBPR FOR HD OR DVD
YPBRR FOR HD OR DVD
DGC-RLY
CONTROL S IN
CONTROL S OUT
TO A BOARD CN6005
TO A BOARD CN6013
TO A BOARD CN7003
TO A BOARD CN702
TO A BOARD CN6006
TO A BOARD CN703
TO B BOARD CN3205
TO B BOARD CN3204
TO D BOARD CN6502
AC-IN
FOR CHECK
9-965-898-01<DX-1A>BLK 2 OF 4

BLOCK DIAGRAM (3 OF 4)



BLOCK DIAGRAM (4 OF 4)

A (1/2)
MAIN UCOM
Y/C/CRT DRIVE

C RGB DRIVE
CRT DRIVE

S (AUDIO)

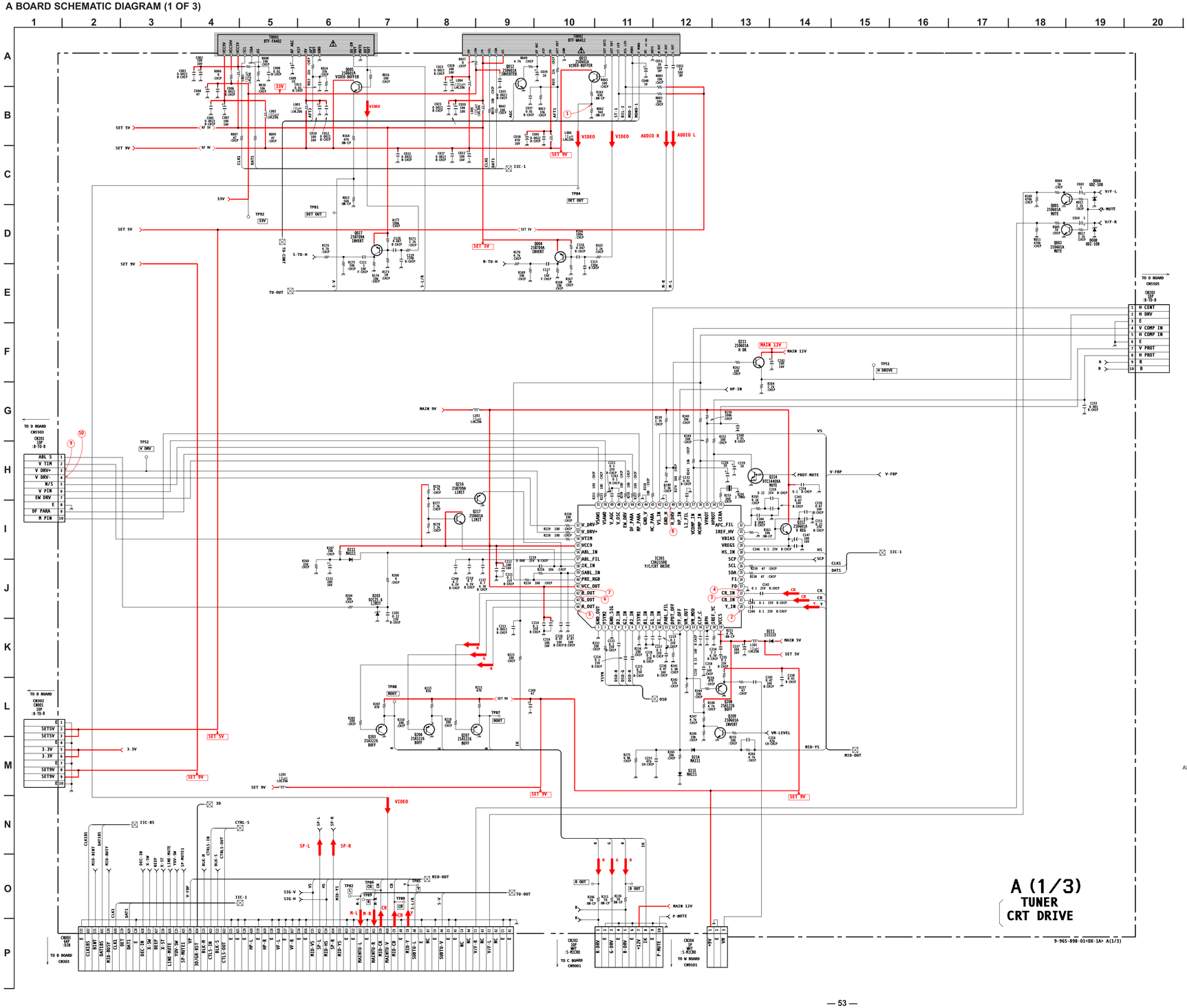
W VELOCITY MODULATION

HA KEY INPUT LED RMC

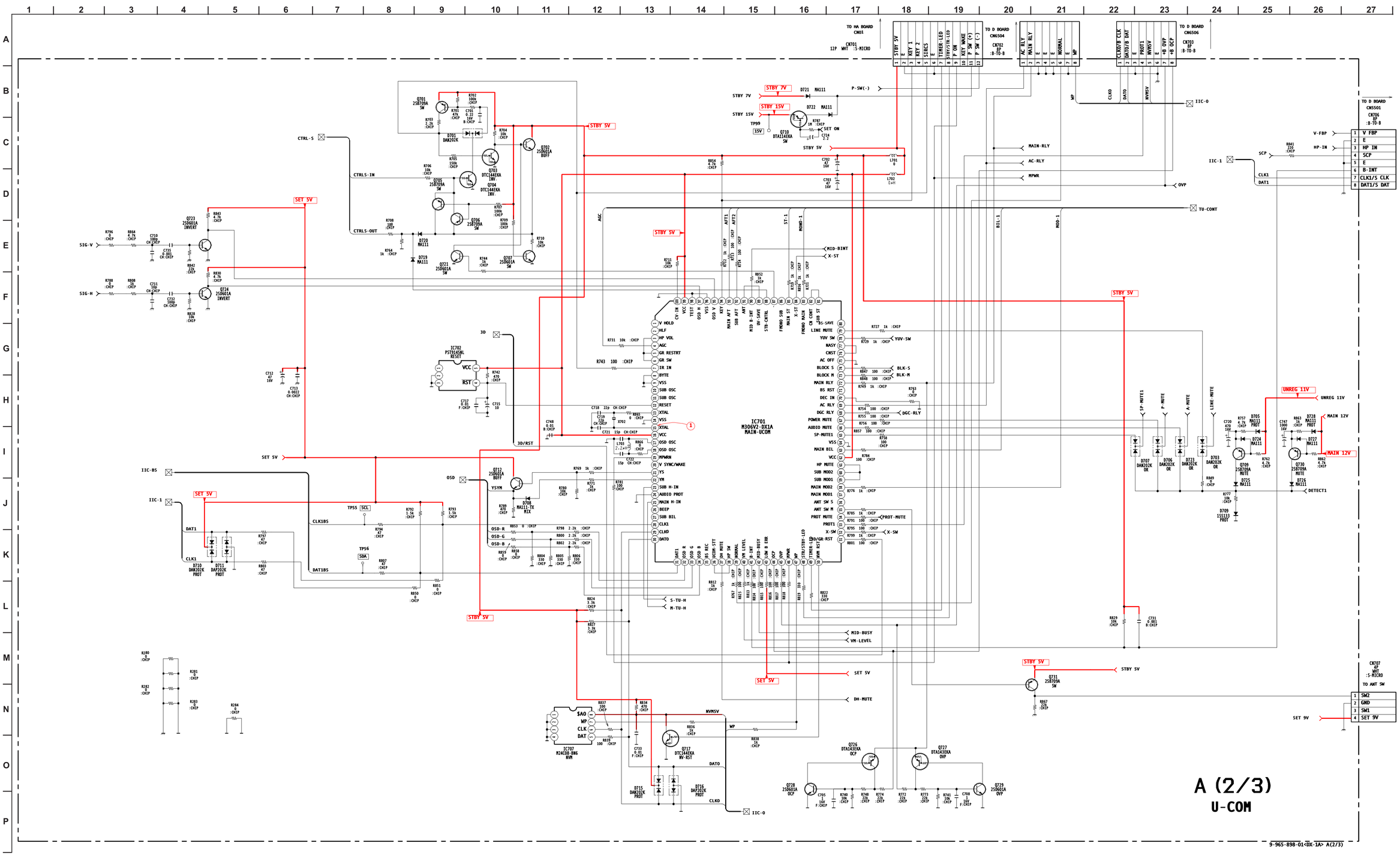
IC201 Y/C/CRT DRIVE

IC701 MAIN UCOM

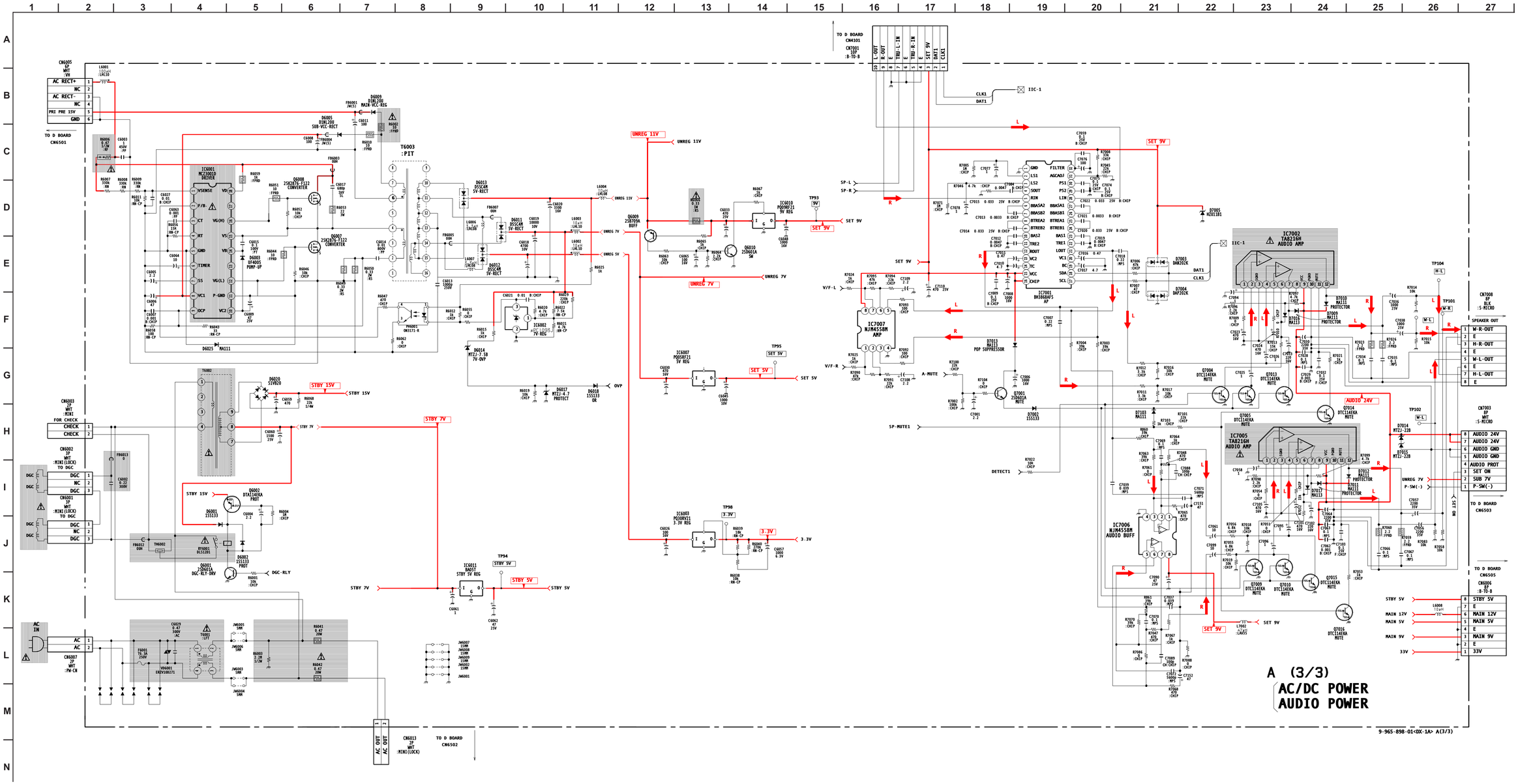
A BOARD SCHEMATIC DIAGRAM (1 OF 3)



A BOARD SCHEMATIC DIAGRAM (2 OF 3)



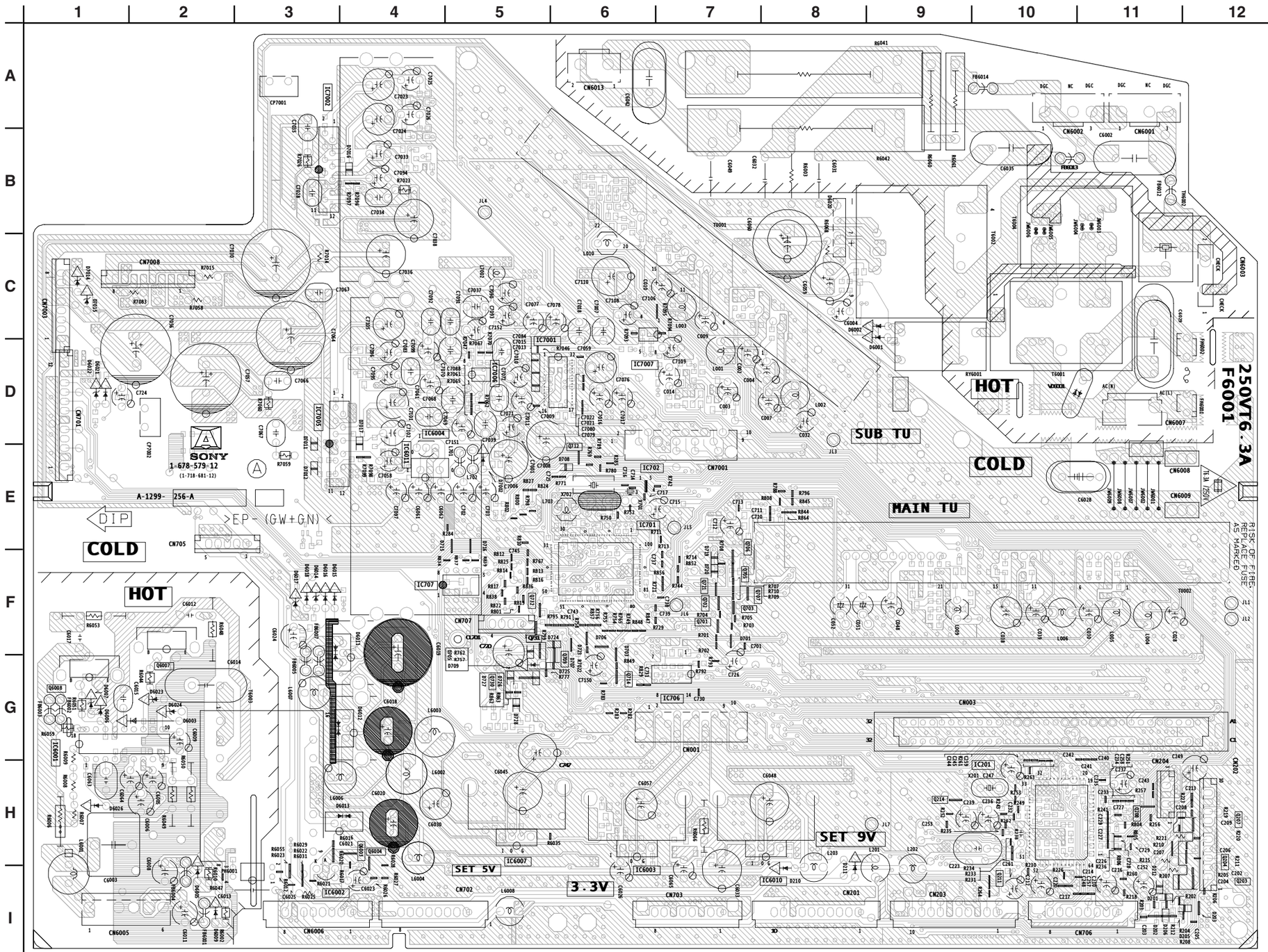
A BOARD SCHEMATIC DIAGRAM (3 OF 3)



A

[TUNER, CRT DRIVE, U-COM, AC/DC POWER, AUDIO POWER]

COMPONENT SIDE



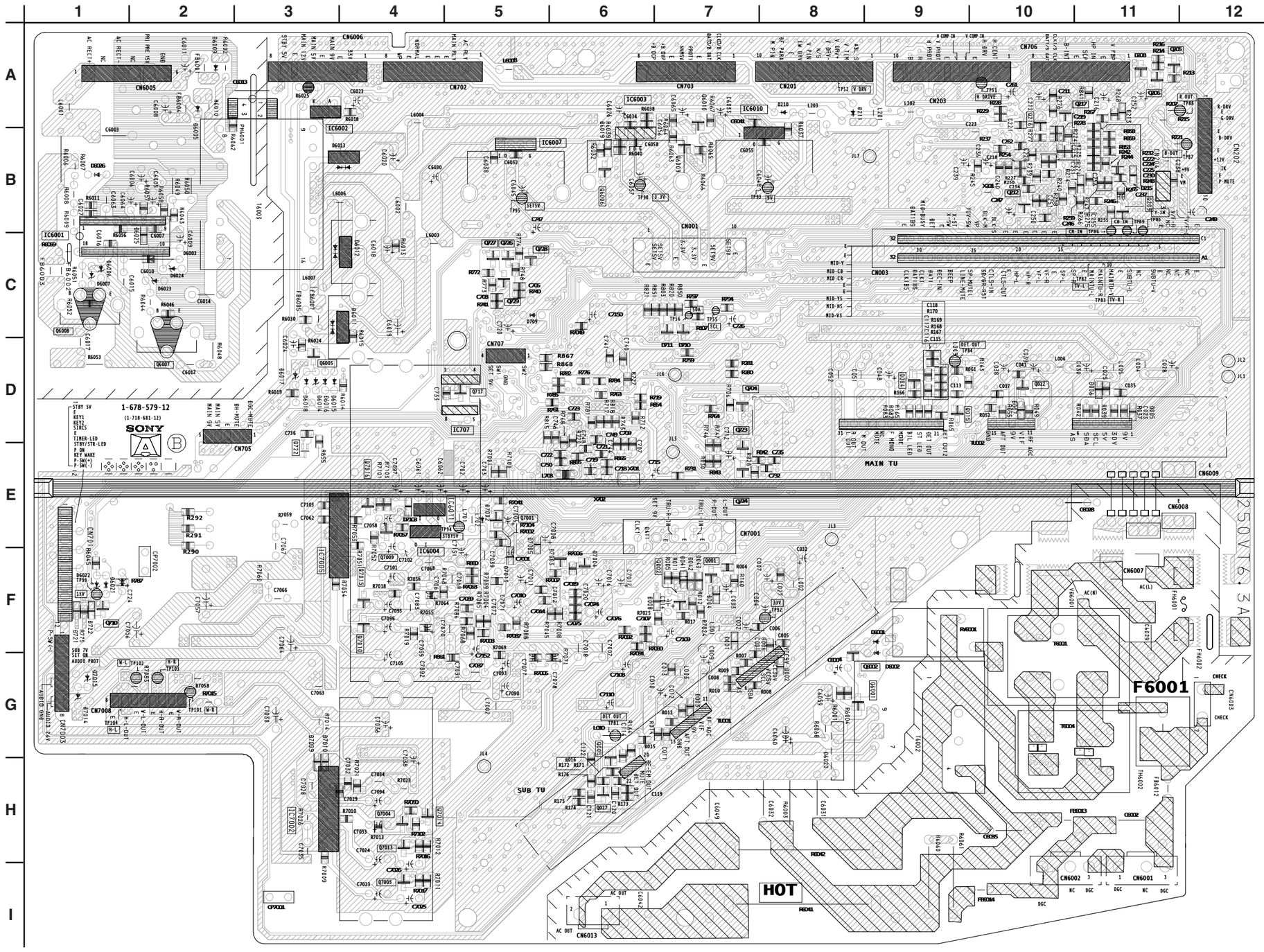
A BOARD LOCATOR LIST (COMPONENT SIDE)

DIODE		IC	
D203	I-12	IC201	H-10
D211	I-8	IC701	E-6
D212	H-8	IC702	E-6
D701	D-4	IC707	F-4
D703	F-6	IC6001	G-1
D705	F-4	IC6002	I-4
D706	F-6	IC6003	I-7
D707	G-6	IC6007	H-5
D708	E-6	IC6010	I-8
D709	G-5	IC6011	E-4
D715	E-4	IC7001	D-6
D716	E-5	IC7002	A-3
D719	F-7	IC7005	D-3
D720	F-7	IC7006	D-5
D723	F-6	IC7007	D-6
D724	F-5	**TRANSISTOR**	
D725	G-6	Q203	I-12
D726	G-5	Q204	I-12
D727	G-5	Q207	H-12
D728	G-5	Q208	H-11
D6001	C-9	Q211	I-10
D6002	C-8	Q214	H-9
D6003	G-2	Q701	F-7
D6005	I-2	Q702	F-7
D6009	I-2	Q703	F-7
D6011	F-4	Q705	F-7
D6012	G-4	Q706	F-7
D6013	H-4	Q707	F-7
D6014	F-3	Q709	G-6
D6017	F-3	Q712	D-6
D6020	B-8	Q721	F-7
D7002	E-5	Q730	G-5
D7011	D-3	Q731	F-5
D7012	E-3	Q6007	G-2
D7014	C-1	Q6008	G-1
D7015	C-1		
D7016	B-4		
D7017	D-4		

A

[TUNER, CRT DRIVE, U-COM, AC/DC POWER, AUDIO POWER]

CONDUCTOR SIDE



A BOARD LOCATOR LIST (CONDUCTOR SIDE)

DIODE		Q206	A-11
D004	F-7	Q209	B-11
D008	F-7	Q212	B-10
D214	B-10	Q216	A-10
D215	B-10	Q217	A-11
D710	D-7	Q704	D-8
D711	D-7	Q710	F-1
D721	F-1	Q717	D-5
D722	F-1	Q723	D-7
D6018	D-3	Q724	E-7
D6025	D-3	Q726	C-5
D7003	E-5	Q727	C-5
D7004	E-5	Q728	C-6
D7005	E-5	Q729	C-5
D7009	H-4	Q6001	G-9
D7010	H-4	Q6002	G-10
D7013	F-5	Q6009	B-7
D7103	E-4	Q6010	A-7
TRANSISTOR		Q7001	E-5
Q001	F-7	Q7004	H-4
Q002	F-7	Q7005	I-4
Q004	D-9	Q7009	F-4
Q005	H-6	Q7010	F-4
Q012	D-10	Q7013	H-4
Q015	D-10	Q7014	H-4
Q027	H-6	Q7015	F-4
Q205	A-11	Q7016	

A BOARD IC VOLTAGE LIST (1 OF 3)

IC201		14	2.3	29	5.0	44	GND	59	1.7
pin	volt	15	3.7	30	5.6	45	2.8	60	1.7
1	GND	16	2.7	31	1.3	46	3.6	61	9.0
2	0.0	17	2.6	32	3.0	47	3.9	62	2.3
3	GND	18	1.1	33	1.6	48	4.4	63	2.5
4	3.1	19	4.9	34	0.0	49	5.4	64	2.3
5	3.1	20	3.6	35	0.0	50	3.5		
6	3.1	21	3.4	36	0.2	51	3.8		
7	0.0	22	3.4	37	0.0	52	3.4		
8	3.6	23	GND	38	3.2	53	3.5		
9	3.6	24	N/C	39	1.1	54	1.0		
10	3.6	25	4.6	40	2.8	55	9.0		
11	0.0	26	4.6	41	GND	56	1.0		
12	0.5	27	0.7	42	0.0	57	4.3		
13	0.5	28	0.0	43	3.8	58	3.9		

All voltages are in V.

A BOARD TRANSISTOR VOLTAGE LIST (1 OF 3)

	B	C	E
Q001	0.4	0.0	GND
Q002	0.4	0.0	GND
Q004	4.6	1.1	5.0
Q005	4.3	9.0	3.6
QO12	0.1	7.5	GND
Q015	6.2	9.0	5.5
Q027	4.5	0.0	5.0
Q203	2.3	GND	3.2
Q204	2.5	GND	3.2
Q205	2.3	3.4	GND
Q206	3.4	4.1	3.5
Q207	2.3	GND	3.2
Q208	2.3	GND	3.2
Q209	0.8	2.2	GND
Q211	2.8	11.5	2.3
Q212	5.6	9.0	5.0
Q214	0.0	0.0	GND
Q216	4.5	GND	3.9
Q217	4.4	8.7	3.9

All voltages are in V.

A BOARD IC VOLTAGE LIST (2 OF 3)

IC701		17	0.0	35	N/C	53	3.0	71	N/C	89	0.0	5	4.9
pin	volt	18	0.0	36	0.0	54	0.0	72	6.3	90	0.0	IC707	
1	N/C	19	0.0	37	4.6	55	0.0	73	0.0	91	0.0	pin	volt
2	N/C	20	2.8	38	0.0	56	0.0	74	0.0	92	0.0	1	GND
3	0.0	21	0.0	39	0.0	57	N/C	75	GND	93	0.0	2	GND
4	0.0	22	0.0	40	0.0	58	0.0	76	0.0	94	4.6	3	GND
5	0.0	23	0.0	41	2.3	59	0.0	77	0.0	95	4.6	4	GND
6	0.0	24	GND	42	0.0	60	0.0	78	0.0	96	GND	5	4.6
7	4.7	25	0.0	43	4.6	61	0.0	79	0.0	97	4.6	6	4.6
8	GND	26	N/C	44	2.8	62	4.9	80	N/C	98	GND	7	5.0
9	GND	27	N/C	45	0.1	63	4.9	81	0.0	99	4.9	8	5.0
10	N/C	28	4.4	46	0.0	64	GND	82	0.0	100	4.6		
11	N/C	29	4.9	47	4.6	65	0.0	83	0.0	IC702			
12	4.9	30	4.9	48	5.0	66	N/C	84	0.0	pin	volt		
13	2.3	31	4.4	49	5.0	67	0.0	85	0.0	1	N/C		
14	GND	32	0.0	50	0.0	68	0.0	86	N/C	2	GND		
15	2.4	33	0.0	51	5.0	69	7.3	87	0.0	3	GND		
16	4.9	34	0.0	52	0.0	70	0.0	88	0.0	4	4.9		

All voltages are in V.

A BOARD TRANSISTOR VOLTAGE LIST (2 OF 3)

	B	C	E
Q701	4.7	4.7	5.0
Q702	0.1	5.0	0.0
Q703	4.6	5.0	GND
Q704	0.0	4.4	GND
Q705	5.0	0.0	0.0
Q706	5.0	0.0	0.0
Q707	0.5	0.0	GND
Q709	10.4	0.7	10.2
Q710	19.5	0.0	19.9
Q712	0.0	5.0	0.0
Q717	0.0	5.0	GND
Q719	0.6	4.5	GND
Q720	4.5	0.0	4.5
Q721	0.0	0.0	GND
Q723	0.2	4.6	GND
Q724	0.5	4.6	GND
Q731	0.0	0.0	5.0

All voltages are in V.

A BOARD IC VOLTAGE LIST (3 OF 3)

IC6001		14	160.6	**IC6007**		**IC7001**		14	1.9	29	4.4	10	0.0	11	4.2
pin	volt	15	150.4	pin	volt	pin	volt	15	9.0	30	4.5	11	4.1	12	10.5
1	3.3	16	154.6	I	6.3	1	GND	16	9.0	31	2.8	12	10.5	**IC7006**	
2	1.8	17	N/C	G	GND	2	0.0	17	4.5	32	4.4	**IC7005**		pin	volt
3	2.2	18	303.1	O	5.0	3	4.5	18	4.6	**IC7002**		pin	volt	1	4.5
4	2.5	**IC6002**		**IC6010**		4	4.4	19	1.9	pin	volt	1	1.6	2	4.5
5	GND	pin	volt	pin	volt	5	4.4	20	0.8	1	1.6	2	0.0	3	4.5
6	0.0	1	7.3	I	10.9	6	4.4	21	4.4	2	0.0	3	0.0	4	GND
7	4.6	2	GND	G	GND	7	4.4	22	4.4	3	0.0	4	0.0	5	4.5
8	17.3	3	2.5	O	9.0	8	4.4	23	4.4	4	0.0	5	1.6	6	4.5
9	0.0	**IC6003**		**IC6011**		9	4.4	24	4.4	5	1.6	6	8.0	7	4.5
10	10.4	pin	volt	pin	volt	10	4.4	25	4.4	6	8.0	7	11.0	8	9.0
11	GND	I	5.7	I	8.1	11	4.4	26	4.4	7	4.0	8	5.0	All voltages are in V.	
12	4.7	G	GND	G	GND	12	4.4	27	4.4	8	5.0	9	23.7		
13	N/C	O	3.3	O	5.0	13	0.8	28	4.4	9	23.7	10	0.0		

A BOARD TRANSISTOR VOLTAGE LIST (3 OF 3)

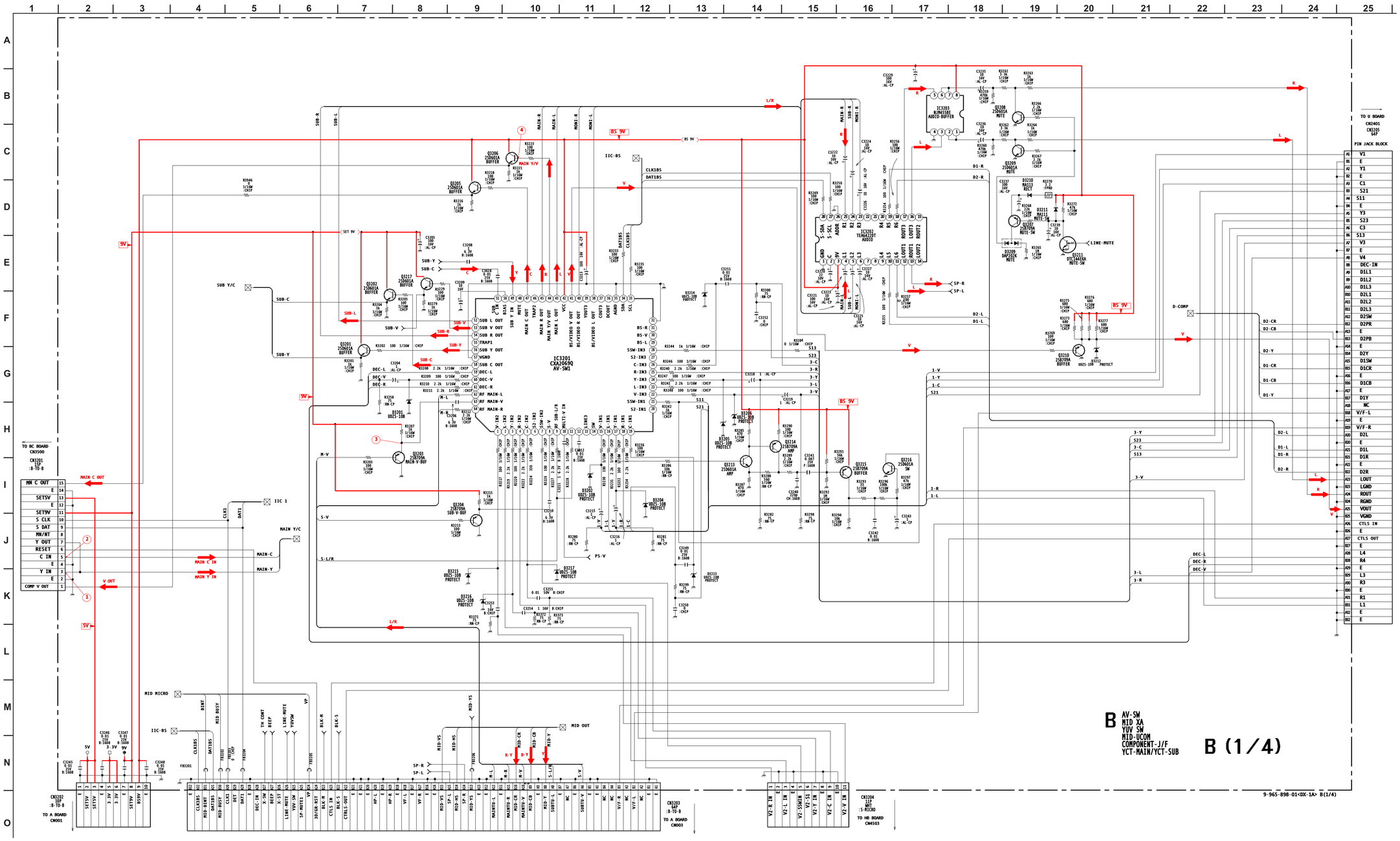
	B	C	E
Q6001	0.0	18.0	GND
Q6002	19.7	18.5	19.8
Q6003	-0.5	0.0	GND
Q7001	0.3	0.0	0.0
Q7002	-0.1	9.0	GND
Q7003	9.0	0.0	9.0
Q7004	0.3	8.0	GND
Q7005	0.0	0.0	GND
Q7009	0.3	8.0	GND
Q7010	0.0	0.7	GND
Q7011	0.0	-0.1	0.0
Q7014	0.0	4.1	GND
Q7016	0.0	4.2	GND

All voltages are in V.

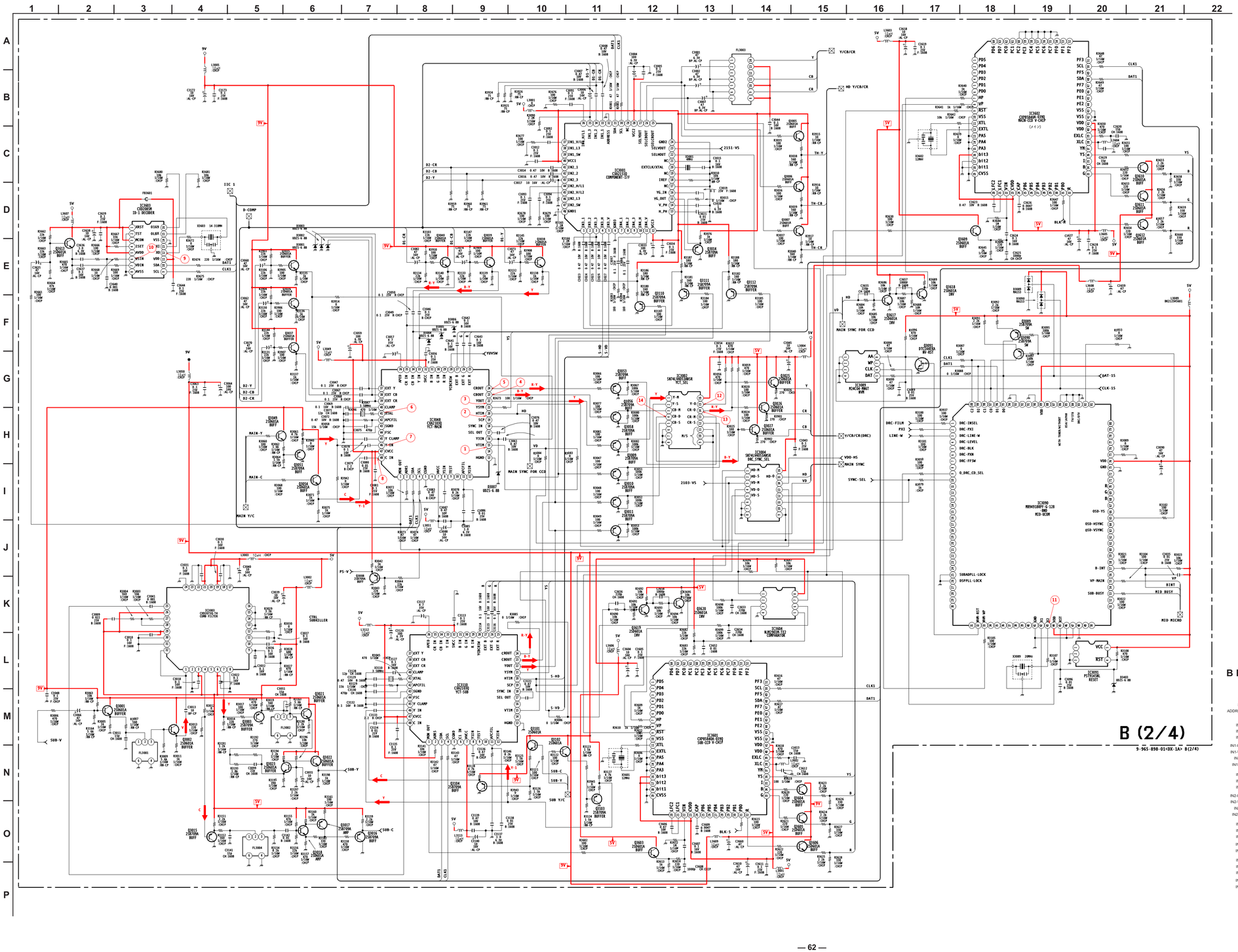
	D	G	S
Q6007	150.4	4.7	0.0
Q6008	303.0	154.6	150.0

All voltages are in V.

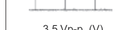
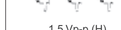
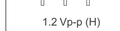
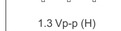
B BOARD SCHEMATIC DIAGRAM (1 OF 4)


IC3201
CXA2069Q
AV-SW1
IC3303
BU4558F
AUDIO-BUFFER
IC3202
TEA6422D
AUDIO
Q3201 2SD601A BUFFER
Q3202 2SD601A BUFFER
Q3203 2SB709A SUB-V-BUF
Q3204 2SB709A SUB-V-BUF
Q3205 2SD601A BUFFER
Q3206 2SD601A BUFFER
Q3207 2SB709A MAIN-V-BUF
Q3208 2SD601A MUTE
Q3209 2SD601A MUTE
Q3210 2SB709A BUFFER
Q3211 DTC144EKA MUTE-SW
Q3213 2SD601A AMP
Q3214 2SB709A AMP
Q3215 2SB709A BUFFER
Q3216 2SD601A SW
Q3307 2SD709A MUTE-SW
D3201 UDZS-10B PROTECT
D3202 UDZS-10B PROTECT
D3203 UDZS-10B PROTECT
D3204 UDZS-10B PROTECT
D3205 UDZS-10B PROTECT
D3206 UDZS-10B PROTECT
D3207 UDZS-10B PROTECT
D3208 UDZS-10B PROTECT
D3209 UDZS-10B PROTECT
D3210 MA133 RECT
D3211 MA111 MUTE-SW
D3212 UDZS-10B PROTECT
D3213 UDZS-10B PROTECT
D3214 UDZS-10B PROTECT
D3215 UDZS-10B PROTECT
D3216 UDZS-10B PROTECT
D3217 UDZS-10B PROTECT
D3309 DAP202K MUTE
D3310 MA133 RECT
D3311 UDZS-10B PROTECT
D3312 UDZS-10B PROTECT
D3313 UDZS-10B PROTECT
D3314 UDZS-10B PROTECT
D3315 UDZS-10B PROTECT
D3316 UDZS-10B PROTECT
D3317 UDZS-10B PROTECT
D3318 UDZS-10B PROTECT
D3319 UDZS-10B PROTECT
D3320 UDZS-10B PROTECT
D3321 UDZS-10B PROTECT
D3322 UDZS-10B PROTECT
D3323 UDZS-10B PROTECT

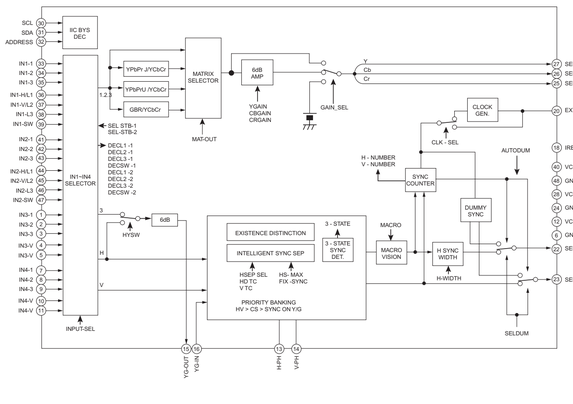
B BOARD SCHEMATIC DIAGRAM (2 OF 4)



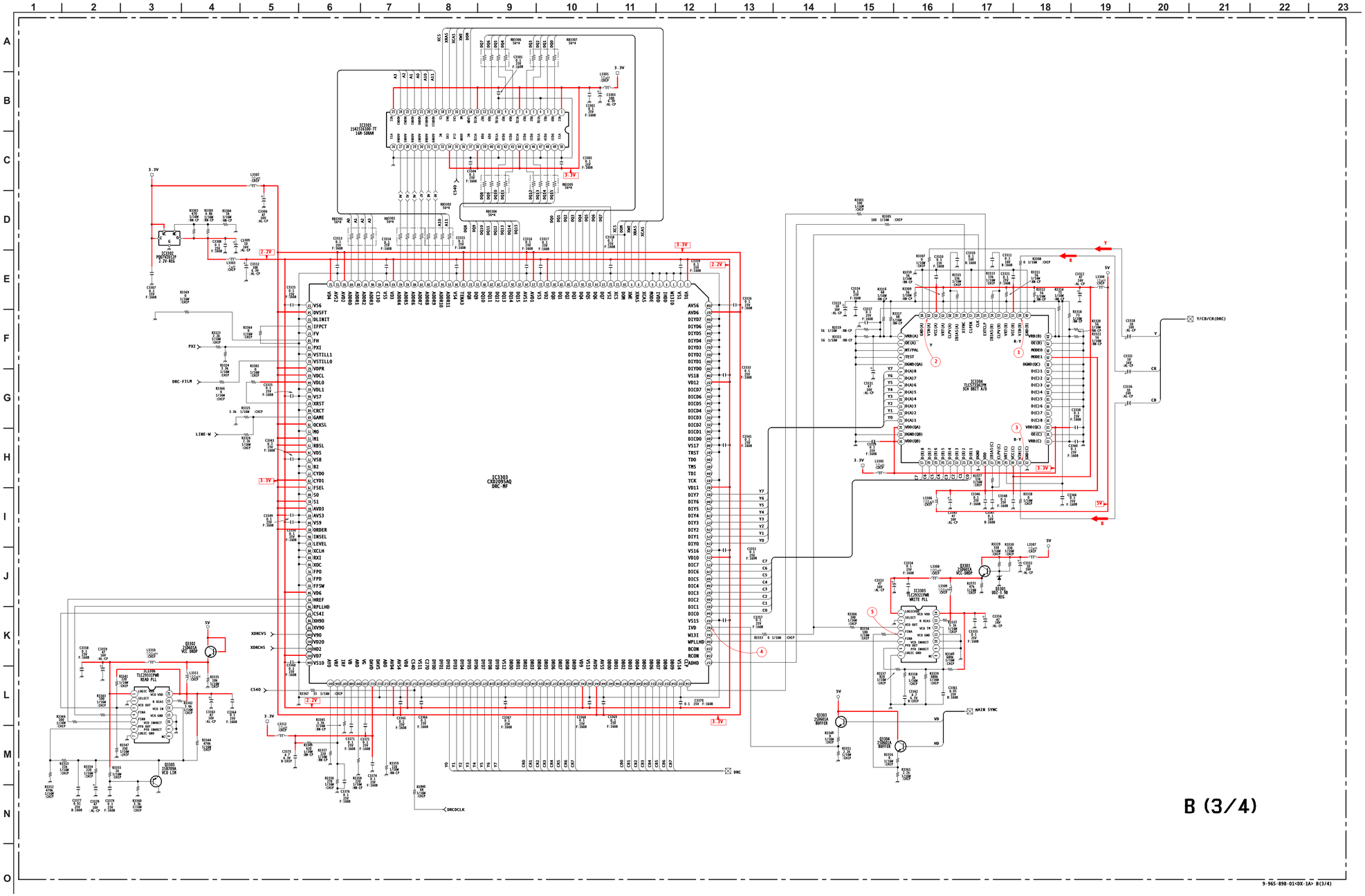
B BOARD WAVEFORMS (2 OF 4)

1  3.5 Vp-p (V)	2 3.7 Vp-p (H)	3  1.5 Vp-p (H)
4 1.2 Vp-p (H)	5 1.3 Vp-p (H)	6 0.2 Vp-p (3.58MHz)
7  1.2 Vp-p (H)	8  0.8 Vp-p (H)	9 4.8 Vp-p (14.3MHz)
10 1.0 Vp-p (H)	11 2.4 Vp-p (20MHz)	12 1.5 Vp-p (H)
13 1.3 Vp-p (H)	14 1.3 Vp-p (H).	

B BOARD: IC3001 CXA2151Q



B BOARD SCHEMATIC DIAGRAM (3 OF 4)



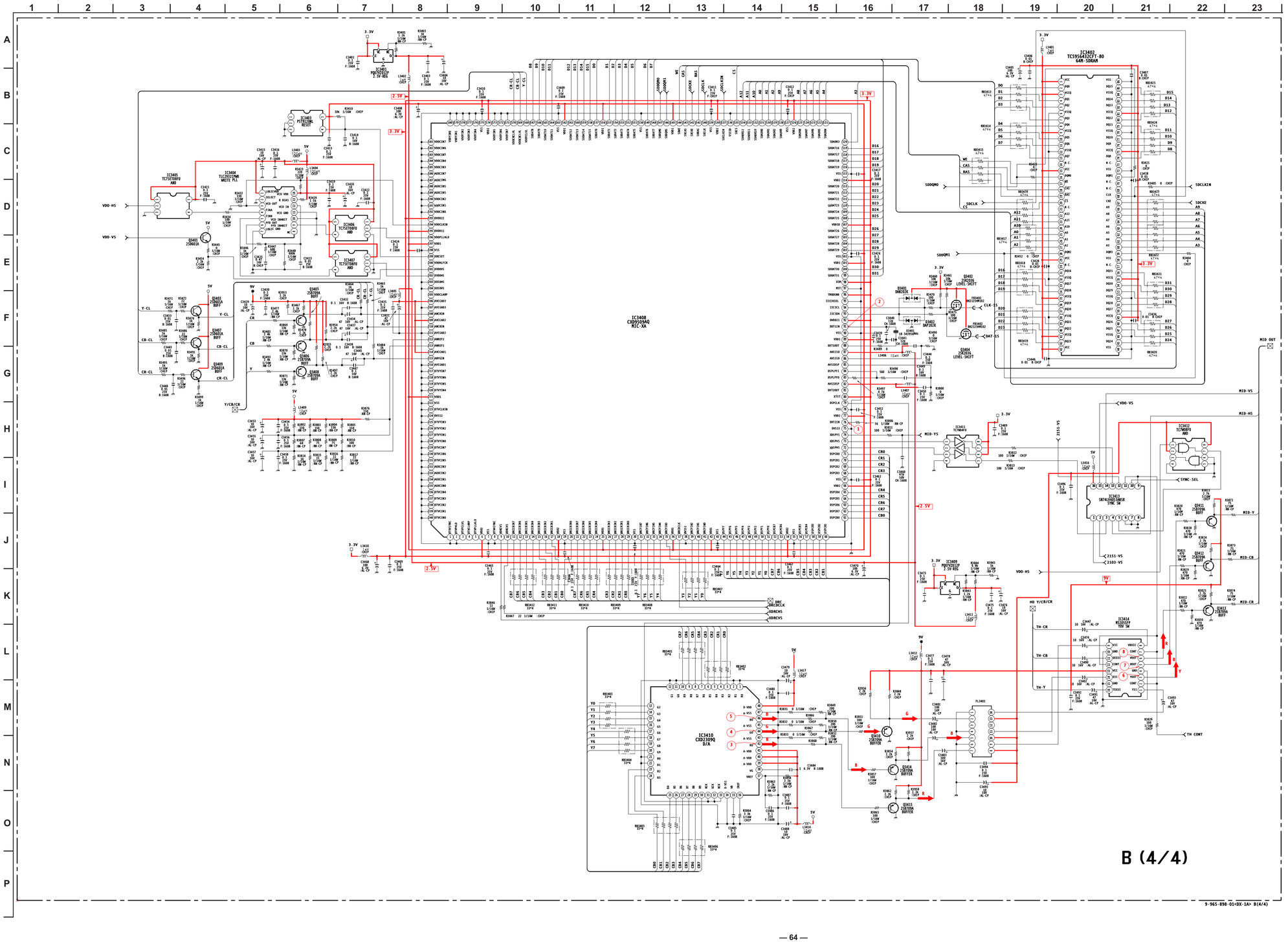
B (3/4)

9-965-898-01<DX-1A> B(3/4)

B BOARD WAVEFORMS (3 OF 4)

1 1.3 Vp-p (H)	2 1.5 Vp-p (H)	3 1.1 Vp-p (H)
4 3.3 Vp-p (V)	5 3.5 Vp-p (H)	

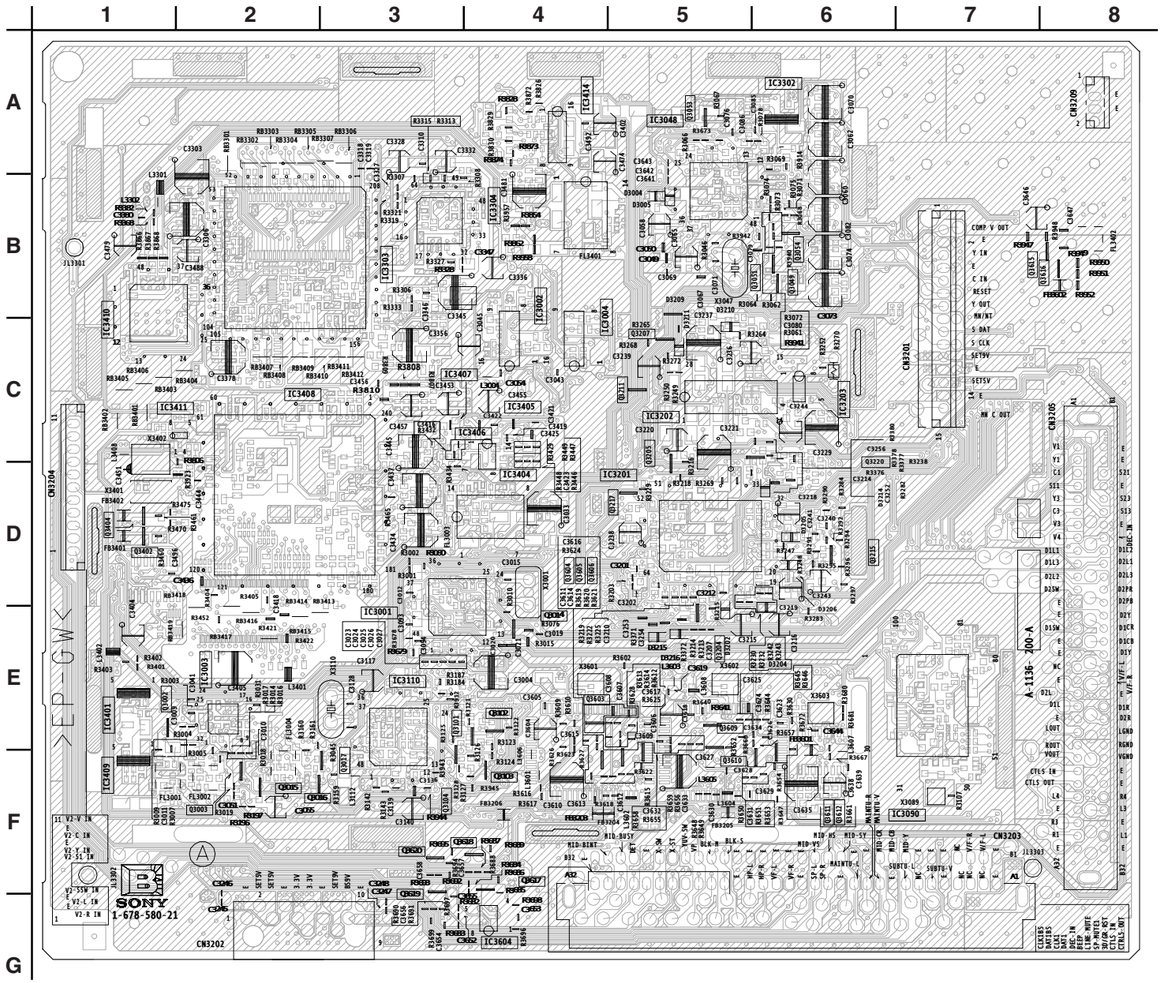
B BOARD SCHEMATIC DIAGRAM (4 OF 4)



B

[AV-SW1, AUDIO SW, MID-UCOM, YCT-MAIN, MAIN-CCD V-CHIP, SUB-CCD V-CHIP, 3CH 8 BIT A/D, DRC-MF, MID-XA, A/D]

COMPONENT SIDE



B BOARD TRANSISTOR VOLTAGE LIST (1 OF 4)

	B	C	E
Q3201	4.6	2.9	2.5
Q3202	2.7	9.0	2.3
Q3203	3.1	GND	3.7
Q3204	1.8	GND	2.2
Q3205	4.4	9.0	3.8
Q3206	4.9	9.0	4.3
Q3207	8.9	-1.0	8.9
Q3208	-0.3	0	GND
Q3209	-0.3	0	GND
Q3210	2.7	GND	3.1
Q3211	0.4	8.9	GND
Q3213	3.8	7.9	3.2
Q3214	7.9	5.8	8.5
Q3215	8.5	0	9.0
Q3216	0.1	4.9	0
Q3217	3.6	9.0	3.1

All voltages are in V.

B BOARD TRANSISTOR VOLTAGE LIST (2 OF 4)

	B	C	E
Q3001	4.1	9.0	3.4
Q3002	5.1	9.0	5.7
Q3003	1.8	GND	5.4
Q3005	2.2	4.9	1.6
Q3006	2.9	4.9	2.2
Q3007	2.9	4.8	2.3
Q3008	1.0	GND	1.6
Q3009	2.0	GND	0
Q3010	2.0	GND	0
Q3011	1.2	GND	0
Q3014	2.7	GND	3.3
Q3015	1.0	GND	1.6
Q3016	1.1	GND	1.7
Q3017	4.1	4.8	0.7
Q3018	1.5	4.1	0.9
Q3021	2.9	9.0	0.7
Q3022	7.9	9.0	0
Q3023	0.7	7.9	0.3
Q3025	2.5	5.0	1.4
Q3026	2.7	5.0	1.4
Q3027	2.8	5.0	1.4
Q3035	5.1	9.0	4.3
Q3036	5.1	9.0	4.3
Q3037	5.1	9.0	4.3
Q3038	4.9	9.0	4.1
Q3039	4.9	9.0	4.1
Q3040	4.9	9.0	4.1
Q3049	5.3	8.9	4.7
Q3051	2.3	GND	3.0
Q3053	2.0	GND	2.6
Q3054	5.7	8.9	5.1
Q3056	2.1	GND	2.8
Q3058	1.9	GND	2.5
Q3089	4.1	4.7	4.7
Q3090	4.1	4.7	4.7
Q3091	0	8.9	GND
Q3101	3.7	9.0	3.1
Q3102	2.8	9.0	2.2
Q3103	1.1	GND	1.7
Q3104	1.5	GND	2.1
Q3110	0.8	GND	1.5
Q3111	1.2	GND	1.8
Q3112	1.2	GND	1.8
Q3603	1	4.9	0.3
Q3604	0	9.0	0
Q3605	0	9.0	0
Q3606	0	9.0	0
Q3609	1.9	4.9	1.3
Q3610	0	9.0	0
Q3611	0	9.0	0
Q3612	0	9.0	0
Q3613	3.7	4.9	3.0
Q3617	0.5	4.7	GND
Q3618	0.2	4.7	GND
Q3619	0.5	0.1	GND
Q3620	0.2	0.2	GND

All voltages are in V.

B BOARD TRANSISTOR VOLTAGE LIST (3 OF 4)

	B	C	E
Q3301	3.9	4.9	3.4
Q3302	4.9	4.9	3.4
Q3303	0.5	4.9	0.1
Q3304	0.5	4.9	0.2
Q3305	3.2	GND	2.3

All voltages are in V.

B BOARD TRANSISTOR VOLTAGE LIST (4 OF 4)

	B	C	E
Q3401	0	4.9	0
Q3402	3.3	4.6	3.1
Q3403	1.0	4.9	0.5
Q3404	3.3	4.6	3.1
Q3405	2.3	GND	3.0
Q3406	2.3	GND	3.0
Q3407	1.7	4.9	1.2
Q3408	2.3	GND	3.0
Q3409	1.7	4.9	1.2
Q3410	0.5	GND	1.2
Q3411	1.5	GND	2.2
Q3412	1.5	GND	2.2
Q3413	1.5	GND	2.2
Q3414	0.8	GND	1.5
Q3415	1.4	GND	2.0

All voltages are in V.

B BOARD IC VOLTAGE LIST (1 OF 4)

IC3201		26	4.4	53	3.8	14	4.4
pin	volt	27	0.1	54	4.5	15	4.4
1	3.9	28	4.9	55	N/C	16	4.4
2	4.4	29	N/C	56	3.4	17	4.4
3	3.9	30	N/C	57	GND	18	4.4
4	4.4	31	N/C	58	4.3	19	4.4
5	4.4	32	GND	59	4.4	20	N/C
6	0.1	33	4.4	60	3.9	21	N/C
7	4.9	34	4.6	61	4.4	22	N/C
8	4.0	35	0.0	62	4.4	23	4.4
9	4.5	36	N/C	63	4.8	24	4.4
10	4.4	37	N/C	64	4.4	25	4.4
11	4.5	38	4.5	IC3202		26	GND
12	4.4	39	N/C	pin	volt	27	4.6
13	N/C	40	4.5	1	GND	28	4.6
14	N/C	41	4.5	2	4.4	IC3203	
15	4.4	42	9.0	3	9.0	pin	volt
16	4.4	43	4.5	4	4.4	1	4.4
17	3.9	44	4.4	5	4.4	2	4.4
18	4.4	45	4.5	6	4.4	3	4.4
19	4.4	46	N/C	7	N/C	4	GND
20	0.1	47	4.4	8	N/C	5	4.4
21	4.9	48	N/C	9	N/C	6	4.4
22	4.3	49	4.1	10	4.4	7	4.4
23	4.4	50	4.5	11	4.4	8	9.0
24	3.9	51	4.4	12	4.4	All voltages are in V	
25	4.4	52	4.5	13	4.4		

B BOARD IC VOLTAGE LIST (2 OF 4)

IC3001		13	2.6	7	4.9	11	N/C	75	GND	30	N/C	44	N/C		GND
pin	volt	14	2.7	8	2.8	12	N/C	76	N/C	31	N/C	45	N/C	43	GND
1	3.2	15	2.5	9	N/C	13	N/C	77	N/C	32	4.8	46	N/C	44	N/C
2	3.2	16	4.9	10	N/C	14	N/C	78	N/C	33	N/C	47	N/C	45	N/C
3	3.2	**IC3003**		11	2.3	15	N/C	79	N/C	34	N/C	48	4.6	46	N/C
4	1.2	pin	volt	12	N/C	16	N/C	80	N/C	35	N/C	49	N/C	47	N/C
5	1.0	1	1.0	13	GND	17	N/C	81	N/C	36	2.6	50	4.6	48	4.6
6	GND	2	0.0	14	N/C	18	N/C	82	N/C	37	N/C	51	N/C	49	N/C
7	N/C	3	4.8	15	0.5	19	N/C	83	GND	38	N/C	52	N/C	50	4.6
8	N/C	4	1.0	16	2.4	20	N/C	84	GND	39	N/C	53	N/C	51	N/C
9	N/C	5	N/C	17	2.0	21	N/C	85	GND	40	1.7	54	N/C	52	N/C
10	1.0	6	4.8	18	3.1	22	N/C	86	GND	41	1.8	55	N/C	53	N/C
11	0.9	7	0.5	19	N/C	23	N/C	87	N/C	42	2.4	56	N/C	54	N/C
12	4.8	8	0.0	20	0.5	24	N/C	88	N/C	43	0.0	57	N/C	55	GND
13	4.0	9	1.9	21	0.0	25	GND	89	5.0	44	2.4	58	N/C	56	GND
14	4.0	10	2.6	22	1.8	26	GND	90	GND	45	3.4	59	N/C	57	GND
15	2.7	11	0.9	23	2.1	27	N/C	91	N/C	46	2.4	60	N/C	58	GND
16	2.3	12	2.0	24	2.0	28	N/C	92	N/C	47	4.8	61	N/C	59	GND
17	1.0	13	GND	25	3.4	29	N/C	93	GND	48	3.1	62	N/C	60	GND
18	2.8	14	0.0	26	3.4	30	N/C	94	N/C	**IC3601**		63	N/C	61	N/C
19	0.0	15	GND	27	3.4	31	N/C	95	2.9	pin	volt	64	N/C	62	N/C
20	2.7	16	GND	28	0.0	32	0.0	96	0.0	1	N/C	**IC3602**		63	N/C
21	0.0	17	0.0	29	N/C	33	0.0	97	2.9	2	N/C	pin	volt	64	N/C
22	0.3	18	0.0	30	N/C	34	N/C	98	4.3	3	N/C	1	N/C	**IC3603**	
23	0.0	19	4.9	31	N/C	35	N/C	99	2.9	4	N/C	2	N/C	pin	volt
24	GND	20	N/C	32	4.8	36	N/C	100	4.3	5	N/C	3	N/C	1	4.9
25	2.9	21	4.9	33	3.4	37	N/C	**IC3091**		6	N/C	4	N/C	2	GND
26	2.8	22	0.0	34	3.1	38	N/C	pin	volt	7	0.2	5	N/C	3	GND
27	2.2	23	N/C	35	0.0	39	N/C	1	N/C	8	0.1	6	N/C	4	1.4
28	4.8	24	GND	36	2.6	40	N/C	2	GND	9	4.9	7	0.2	5	4.9
29	GND	25	2.4	37	3.4	41	0.0	3	GND	10	GND	8	0.1	6	1.9
30	4.6	26	4.8	38	3.1	42	0.0	4	4.9	11	2.4	9	4.9	7	1.6
31	4.6	27	2.2	39	3.1	43	5.0	5	4.9	12	2.1	10	GND	8	GND
32	GND	28	2.2	40	1.7	44	0.0	**IC3110**		13	GND	11	2.4	9	4.6
33	3.1	29	4.8	41	1.7	45	GND	pin	volt	14	GND	12	2.2	10	4.6
34	3.1	30	GND	42	2.4	46	GND	1	1.0	15	GND	13	GND	11	4.9
35	3.1	31	GND	43	0.0	47	GND	2	4.6	16	4.9	14	GND	12	2.6
36	3.2	32	1.0	44	N/C	48	N/C	3	4.6	17	4.9	15	GND	13	2.4
37	3.2	**IC3004**		45	3.1	49	N/C	4	4.6	18	GND	16	4.9	14	GND
38	3.3	pin	volt	46	2.8	50	N/C	5	GND	19	GND	17	GND	15	N/C
39	2.4	1	0.6	47	4.8	51	N/C	6	N/C	20	1.6	18	GND	16	N/C
40	4.8	2	0.5	48	3.1	52	N/C	7	4.9	21	2.4	19	GND		
41	3.1	3	0.5	**IC3089**		53	0.0	8	2.6	22	1.5	20	1.7		
42	3.1	4	0.5	pin	volt	54	N/C	9	N/C	23	4.9	21	2.5		
43	3.1	5	GND	1	GND	55	0.0	10	N/C	24	0.0	22	2.5		
44	3.3	6	GND	2	GND	56	N/C	11	2.4	25	N/C	23	4.9		
45	3.2	7	GND	3	0.0	57	0.0	12	N/C	26	N/C	24	N/C		
46	3.2	8	GND	4	GND	58	N/C	13	GND	27	N/C	25	N/C		
47	2.4	9	4.9	5	4.6	59	N/C	14	N/C	28	N/C	26	N/C		
48	GND	10	4.9	6	4.6	60	N/C	15	0.5	29	N/C	27	N/C		
IC3002		11	0.0	7	4.9	61	N/C	16	N/C	30	N/C	28	N/C		
pin	volt	12	0.3	8	4.9	62	N/C	17	1.6	31	0.0	29	N/C		
1	2.4	13	0.6	**IC3090**		63	N/C	18	2.8	32	0.0	30	N/C		
2	0.0	14	0.3	pin	volt	64	N/C	19	N/C	33	0.0	31	0.0		
3	2.7	15	0.6	1	0.0	65	2.6	20	0.5	34	0.0	32	0.0		
4	2.8	16	4.9	2	0.0	66	N/C	21	0.0	35	N/C	33	0.0		
5	0.0	**IC3048**		3	0.0	67	N/C	22	1.2	36	0.0	34	0.0		
6	GND	pin	volt	4	N/C	68	N/C	23	2.0	37	N/C	35	N/C		
7	GND	1	1.7	5	N/C	69	N/C	24	1.9	38	2.4	36	0.0		
8	GND	2	0.2	6	N/C	70	N/C	25	3.4	39	2.4	37	N/C		
9	4.9	3	4.6	7	N/C	71	N/C	26	3.4	40	4.9	38	2.4		
10	4.9	4	4.6	8	N/C	72	N/C	27	3.4	41	4.9	39	2.4		
11	4.9	5	GND	9	0.0	73	GND	28	N/C	42	GND	40	4.9		
12	0.1	6	N/C	10	0.0	74	5.0	29	N/C	43	GND	41	4.9		

All voltages are in V

B BOARD IC VOLTAGE LIST (3 OF 4)

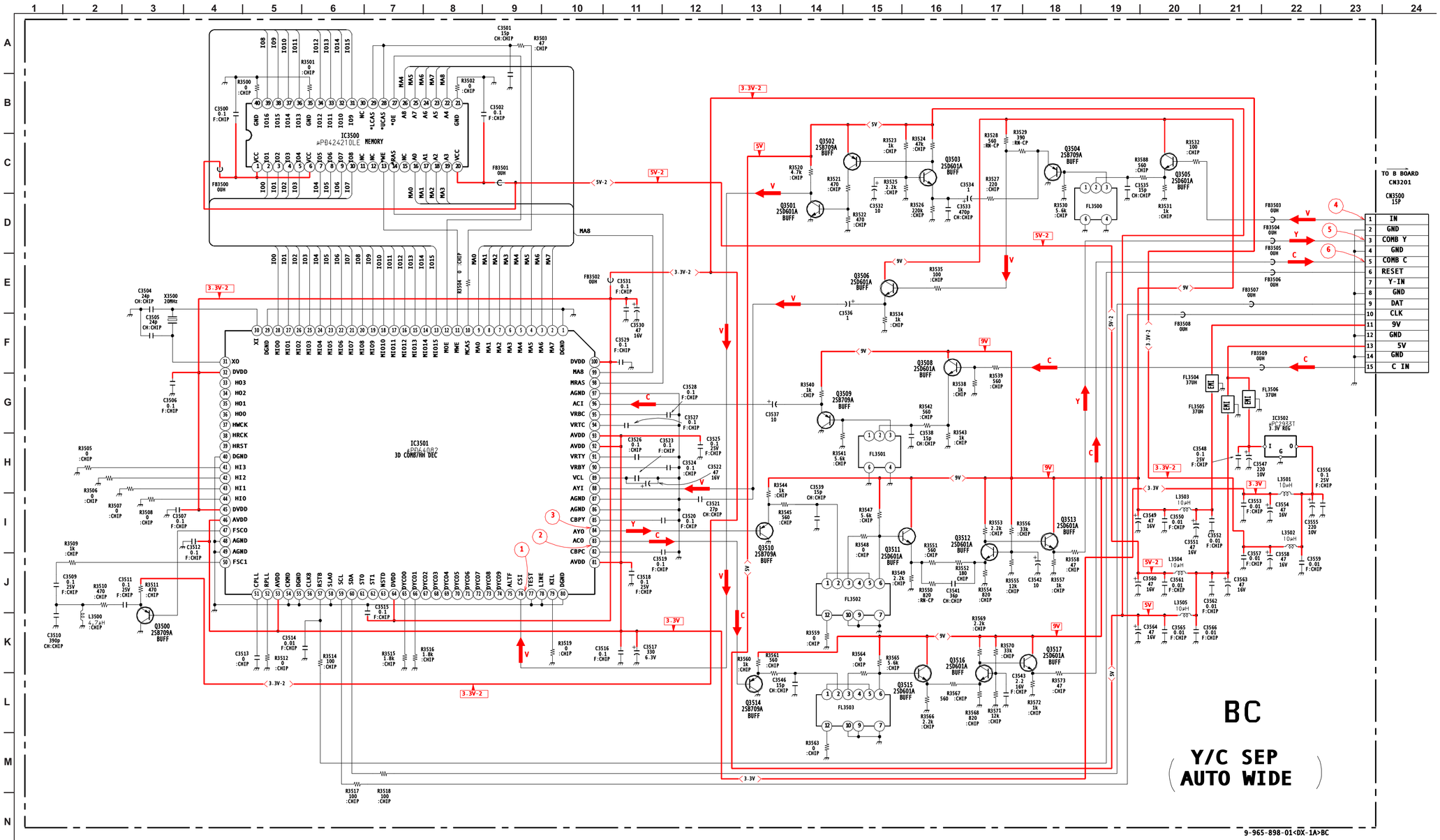
IC3301		IC3302		45	N/C	98	N/C	151	2.3	204	GND	47	0.0
pin	volt	pin	volt	46	0.0	99	N/C	152	2.3	205	GND	48	1.5
1	3.3	I	3.3	47	0.0	100	0.0	153	2.0	206	GND	49	0.0
2	1.5	G	GND	48	0.0	101	N/C	154	1.2	207	3.3	50	0.0
3	1.6	O	1.2	49	0.0	102	0.2	155	GND	208	GND	51	4.8
4	GND	VC	3.3	50	3.3	103	2.2	156	1.6	IC3304		52	4.4
5	1.5	N/C		51	GND	104	GND	157	3.3	pin	volt	53	2.4
6	1.5	IC3303		52	2.2	105	0.4	158	N/C	1	1.6	54	2.4
7	3.3	pin	volt	53	GND	106	1.0	159	N/C	2	0.0	55	1.6
8	1.9	1	2.2	54	3.3	107	1.0	160	0.8	3	0.0	56	0.5
9	GND	2	1.9	55	GND	108	1.0	161	0.9	4	0.0	57	0.0
10	1.8	3	GND	56	0.0	109	0.5	162	0.0	5	0.0	58	3.3
11	1.2	4	GND	57	GND	110	2.2	163	GND	6	1.2	59	3.3
12	3.3	5	GND	58	GND	111	3.3	164	1.4	7	1.2	60	1.6
13	0.5	6	GND	59	0.0	112	GND	165	1.9	8	0.0	61	3.2
14	3.2	7	1.9	60	GND	113	0.5	166	1.8	9	1.9	62	4.8
15	3.2	8	2.0	61	0.0	114	3.3	167	1.9	10	0.1	63	2.1
16	3.2	9	2.0	62	3.3	115	GND	168	1.9	11	0.8	64	0.0
17	3.2	10	0.3	63	3.3	116	2.2	169	1.9	12	2.0	IC3305	
18	3.2	11	1.9	64	3.3	117	0.0	170	1.9	13	1.6	pin	volt
19	0.0	12	GND	65	GND	118	GND	171	1.3	14	3.3	1	3.4
20	0.0	13	0.6	66	GND	119	N/C	172	2.2	15	0.0	2	GND
21	0.0	14	1.0	67	3.3	120	N/C	173	GND	16	3.3	3	1.6
22	0.0	15	1.9	68	GND	121	N/C	174	1.5	17	0.0	4	0.2
23	0.0	16	1.3	69	0.0	122	1.4	175	1.6	18	3.2	5	1.3
24	0.0	17	1.0	70	3.3	123	1.3	176	1.3	19	3.2	6	1.4
25	3.3	18	1.0	71	GND	124	1.4	177	1.0	20	3.2	7	GND
26	GND	19	1.2	72	3.3	125	1.4	178	2.3	21	3.2	8	N/C
27	0.0	20	1.0	73	3.3	126	1.0	179	0.7	22	3.2	9	GND
28	0.0	21	1.2	74	2.2	127	0.9	180	1.6	23	2.0	10	GND
29	0.0	22	GND	75	GND	128	1.1	181	0.8	24	1.1	11	GND
30	0.0	23	3.3	76	GND	129	0.9	182	2.2	25	GND	12	1.4
31	0.0	24	GND	77	GND	130	GND	183	GND	26	4.8	13	2.2
32	0.0	25	0.8	78	3.3	131	N/C	184	N/C	27	2.4	14	3.4
33	N/C	26	0.8	79	3.3	132	N/C	185	N/C	28	2.4	IC3306	
34	3.3	27	0.6	80	GND	133	1.6	186	N/C	29	3.2	pin	volt
35	1.7	28	1.2	81	3.3	134	1.6	187	GND	30	4.8	1	4.2
36	0.5	29	0.7	82	3.3	135	2.2	188	GND	31	2.4	2	GND
37	N/C	30	0.9	83	GND	136	2.2	189	GND	32	GND	3	1.9
38	3.3	31	1.0	84	GND	137	2.2	190	GND	33	1.5	4	3.3
39	1.6	32	0.9	85	3.3	138	2.1	191	GND	34	0.0	5	1.6
40	1.6	33	3.3	86	GND	139	2.2	192	GND	35	3.3	6	2.2
41	GND	34	GND	87	GND	140	1.1	193	GND	36	N/C	7	GND
42	1.5	35	0.0	88	GND	141	2.2	194	GND	37	N/C	8	N/C
43	1.5	36	0.0	89	GND	142	GND	195	GND	38	0.0	9	GND
44	3.3	37	0.0	90	GND	143	3.3	196	GND	39	0.0	10	GND
45	1.8	38	0.0	91	N/C	144	GND	197	2.2	40	0.0	11	GND
46	2.0	39	0.0	92	N/C	145	N/C	198	GND	41	0.0	12	2.3
47	GND	40	0.0	93	GND	146	N/C	199	GND	42	0.0	13	2.1
48	1.7	41	0.0	94	2.2	147	1.6	200	GND	43	0.0	14	4.2
49	1.2	42	0.0	95	1.0	148	1.6	201	GND	44	0.0	All voltages are in V	
50	GND	43	2.2	96	2.0	149	2.2	202	GND	45	4.9		
		44	GND	97	1.3	150	2.4	203	GND	46	0.0		

B BOARD IC VOLTAGE LIST (4 OF 4)

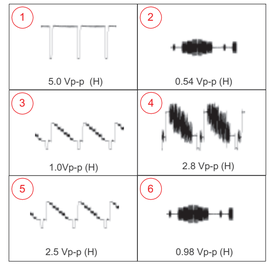
IC3401		50	1.0	13	3.6	34	1.4	92	3.3	150	GND	208	1.0	17	2.4	15	GND
pin	volt	51	1.6	14	4.8	35	1.4	93	3.0	151	0.9	209	2.4	18	0.7	16	4.9
I	3.3	52	GND	**IC3405**		36	2.4	94	3.0	152	2.2	210	1.0	19	1.0	**IC3414**	
G	GND	53	0.9	pin	volt	37	1.8	95	GND	153	2.4	211	GND	20	0.8	pin	volt
O	1.2	54	0.9	1	4.8	38	GND	96	3.3	154	0.7	212	N/C	21	GND	1	4.6
VC	3.3	55	3.3	2	0.3	39	1.4	97	GND	155	1.3	213	N/C	22	GND	2	5.0
NC		56	1.1	3	GND	40	1.4	98	3.3	156	2.5	214	2.4	23	1.4	3	3.1
IC3402		57	NC	4	0.3	41	1.5	99	1.1	157	1.8	215	1.0	24	1.5	4	GND
pin	volt	58	GND	5	4.8	42	2.4	100	0.9	158	1.1	216	GND	25	1.5	5	3.1
1	3.3	59	2.4	**IC3406**		43	GND	101	2.5	159	2.8	217	GND	26	1.5	6	3.1
2	1.8	60	0	pin	volt	44	0.8	102	GND	160	1.6	218	GND	27	1.5	7	5.0
3	3.3	61	2.4	1	4.8	45	1.0	103	0.9	161	0.7	219	GND	28	1.5	8	4.6
4	1.3	62	2.2	2	0	46	0.7	104	1.6	162	2.5	220	GND	29	1.5	9	4.6
5	0.9	63	1.7	3	GND	47	2.4	105	1.0	163	GND	221	1.2	30	1.9	10	GND
6	GND	64	1.7	4	0	48	0.9	106	1.4	164	2.5	222	GND	31	1.6	11	4.6
7	2.4	65	1.8	5	4.8	49	1.0	107	3.3	165	0.7	223	GND	32	1.7	12	5.0
8	2.2	66	0.1	**IC3407**		50	1.1	108	1.7	166	1.3	224	GND	33	1.6	13	8.9
9	3.3	67	2.9	pin	volt	51	1.2	109	1.7	167	1.8	225	GND	34	GND	14	4.6
10	0.9	68	1.8	1	4.8	52	1.9	110	1.1	168	0.9	226	GND	35	1.0	15	GND
11	2.8	69	NC	2	1.0	53	1.4	111	1.7	169	1.1	227	GND	36	0	16	4.6
12	GND	70	NC	3	GND	54	3.3	112	0.9	170	1.1	228	GND	37	2.0		
13	0.9	71	0.1	4	2.4	55	GND	113	1.7	171	GND	229	GND	38	2.6		
14	NC	72	GND	5	4.8	56	1.6	114	3.3	172	GND	230	GND	39	4.8		
15	3.3	73	NC	**IC3408**		57	1.6	115	GND	173	GND	231	GND	40	4.8		
16	0.1	74	1.8	pin	volt	58	1.5	116	1.6	174	3.3	232	GND	41	4.8		
17	3.1	75	3.3	1	GND	59	1.5	117	1.3	175	GND	233	GND	42	1.0		
18	2.9	76	1.3	2	GND	60	1.5	118	1.6	176	GND	234	GND	43	0		
19	3.3	77	0.7	3	NC	61	1.4	119	1.7	177	GND	235	GND	44	0.5		
20	2.8	78	GND	4	NC	62	2.4	120	0	178	GND	236	GND	45	0		
21	NC	79	2.5	5	NC	63	0.9	121	2.4	179	GND	237	GND	46	0		
22	1.7	80	0.7	6	3.3	64	0.8	122	2.2	180	GND	238	GND	47	0		
23	1.7	81	3.3	7	GND	65	0.9	123	1.7	181	GND	239	GND	48	4.8		
24	0.1	82	1.0	8	GND	66	3.3	124	1.7	182	GND	240	GND	**IC3411**			
25	0.1	83	2.8	9	0	67	GND	125	1.8	183	GND	**IC3409**		pin	volt		
26	2.3	84	GND	10	0.2	68	0.8	126	3.3	184	GND	pin	volt	1	3.2		
27	0.1	85	1.1	11	0	69	0.6	127	GND	185	GND	I	3.3	2	NC		
28	2.4	86	GND	12	0	70	0.9	128	0.1	186	GND	G	3.3	3	3.2		
29	3.3	**IC3403**		13	0	71	0.9	129	0.1	187	GND	O	2.5	4	GND		
30	NC	pin	volt	14	0	72	3.2	130	2.3	188	GND	VC	1.2	5	0.0		
31	1.7	1	NC	15	0	73	3.2	131	0.1	189	GND	NC	0	6	3.3		
32	GND	2	GND	16	2.3	74	0.9	132	0.1	190	GND	**IC3410**		7	0		
33	1.6	3	GND	17	1.6	75	GND	133	1.7	191	GND	pin	volt	8	3.3		
34	1.3	4	1.7	18	3.3	76	3.3	134	1.7	192	GND	1	GND	**IC3413**			
35	3.3	5	2.5	19	GND	77	2.5	135	2.8	193	3.3	2	GND	pin	volt		
36	1.6	**IC3404**		20	0.6	78	GND	136	GND	194	2.4	3	0.9	1	GND		
37	1.7	pin	volt	21	1.1	79	1.7	137	1.6	195	2.4	4	0.9	2	GND		
38	GND	1	4.8	22	2.2	80	3.3	138	3.3	196	0	5	0.6	3	0.1		
39	0.9	2	GND	23	2.2	81	NC	139	GND	197	2.4	6	0.8	4	0.1		
40	1.7	3	2.3	24	2.4	82	2.5	140	1.5	198	GND	7	0.9	5	0.3		
41	3.3	4	0.3	25	2.4	83	2.3	141	0	199	1.0	8	0.8	6	GND		
42	1.1	5	2.4	26	2.3	84	0.4	142	2.6	200	NC	9	0.9	7	GND		
43	3.3	6	0.9	27	2.2	85	0	143	3.0	201	0	10	2.4	8	GND		
44	GND	7	GND	28	1.6	86	0	144	3.1	202	1.0	11	GND	9	5.0		
45	1.7	8	NC	29	0.9	87	2.3	145	2.5	203	GND	12	GND	10	5.0		
46	GND	9	0	30	GND	88	1.6	146	0	204	GND	13	1.2	11	5.0		
47	1.7	10	GND	31	1.1	89	2.5	147	0	205	NC	14	1.1	12	0		
48	1.4	11	GND	32	1.0	90	GND	148	0.9	206	2.4	15	1.0	13	0		
49	3.3	12	0.9	33	1.5	91	1.2	149	2.8	207	GND	16	0.9	14	0		

All voltages are in V

BC BOARD SCHEMATIC DIAGRAM



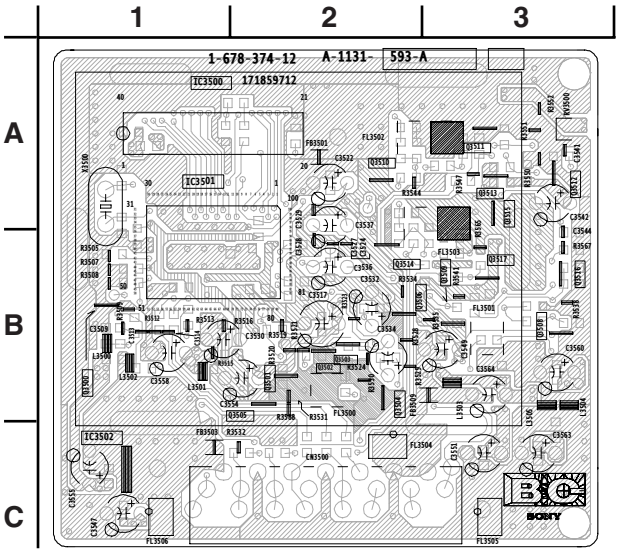
BC BOARD WAVEFORMS



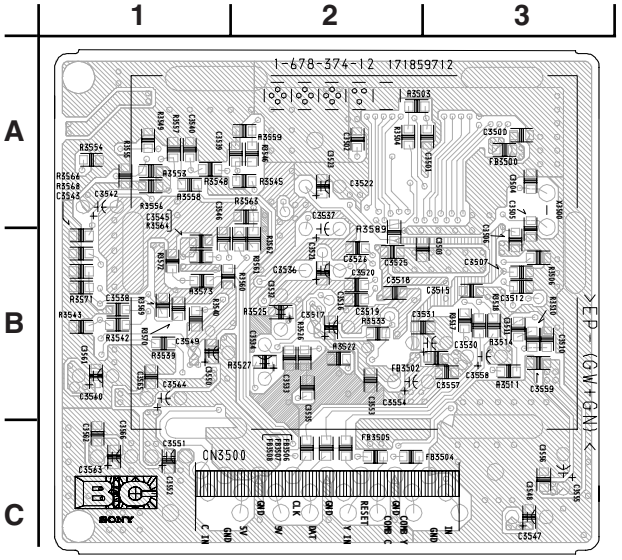
BC

[Y/C SEP, AUTO WIDE]

COMPONENT SIDE



CONDUCTOR SIDE



BC BOARD LOCATOR LIST

IC		Q3506	B-3
IC3500	A-1	Q3508	B-3
IC3501	A-1	Q3509	B-3
IC3502	C-1	Q3510	A-2
TRANSISTOR		Q3511	A-3
Q3500	B-1	Q3512	A-3
Q3501	B-2	Q3513	A-3
Q3502	B-2	Q3514	B-2
Q3503	B-2	Q3515	A-3
Q3504	B-2	Q3516	B-3
Q3505	C-2	Q3517	B-3

BC BOARD TRANSISTOR VOLTAGE LIST

	B	C	E		B	C	E
Q3500	1.7	GND	2.3	Q3510	1.7	GND	2.3
Q3501	0.1	4.2	GND	Q3511	2.9	8.9	2.3
Q3502	4.6	0.4	4.9	Q3512	2.3	6.1	1.7
Q3503	3.3	4.7	4.0	Q3513	6.1	8.9	5.5
Q3504	3.3	GND	4.0	Q3514	1.6	GND	2.3
Q3505	4.3	8.9	3.6	Q3515	2.9	8.9	2.3
Q3506	6.0	8.9	5.3	Q3516	2.3	6.4	1.7
Q3508	2.4	8.9	1.8	Q3517	6.4	8.9	5.7
Q3509	1.6	GND	2.3				

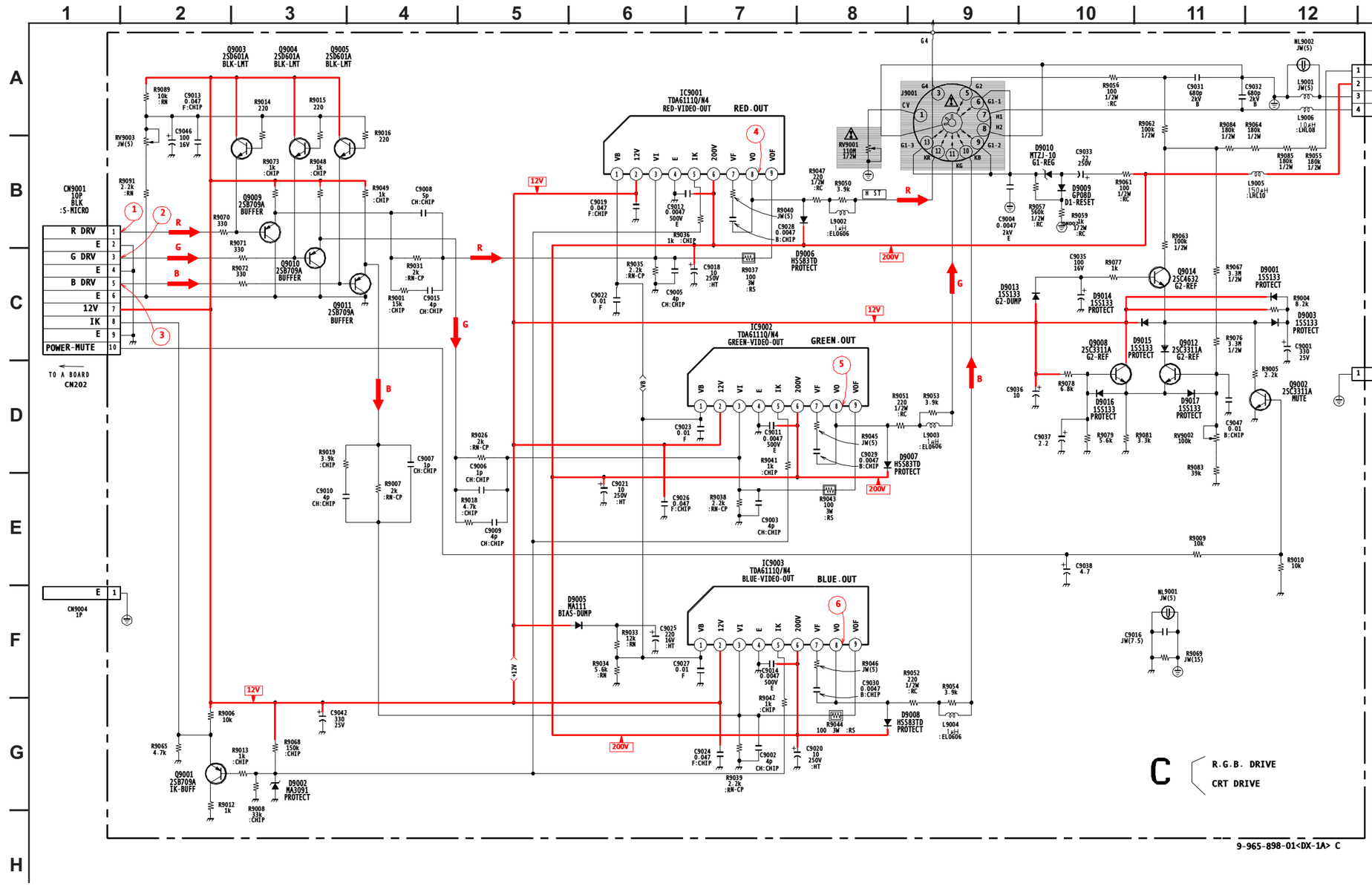
All voltages are in V.

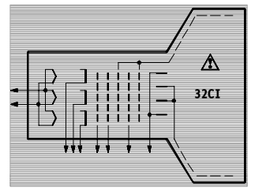
BC BOARD IC VOLTAGE LIST

IC3500		18	1.5	37	1.8	14	2.5	33	N/C	52	0.0	71	N/C	90	0.9
pin	volt	19	1.5	38	1.8	15	1.3	34	N/C	53	3.2	72	N/C	91	1.6
1	4.8	20	4.8	39	1.8	16	1.7	35	N/C	54	GND	73	N/C	92	3.2
2	2.0	21	0.0	40	0.0	17	1.9	36	N/C	55	GND	74	N/C	93	3.2
3	2.0	22	1.5	**IC3501**		18	1.8	37	N/C	56	N/C	75	N/C	94	3.2
4	1.8	23	1.5	pin	volt	19	1.9	38	N/C	57	5.0	76	4.1	95	2.0
5	1.9	24	1.5	1	GND	20	1.8	39	N/C	58	GND	77	GND	96	2.6
6	4.8	25	1.5	2	1.5	21	0.9	40	GND	59	4.5	78	GND	97	0.0
7	1.6	26	1.5	3	1.5	22	1.3	41	0.0	60	4.5	79	0.0	98	0.5
8	1.4	27	2.4	4	1.5	23	1.4	42	0.0	61	N/C	80	GND	99	1.5
9	1.1	28	1.0	5	1.5	24	1.6	43	0.0	62	N/C	81	3.2	100	3.2
10	0.8	29	1.0	6	1.5	25	1.8	44	0.0	63	N/C	82	1.0	**IC3502**	
11	N/C	30	N/C	7	1.5	26	1.8	45	3.2	64	3.2	83	1.6	pin	volt
12	N/C	31	1.9	8	1.5	27	2.0	46	3.2	65	0.0	84	1.7	I	4.8
13	2.9	32	2.5	9	1.5	28	2.0	47	1.7	66	0.0	85	1.0	G	GND
14	0.5	33	1.3	10	1.0	29	GND	48	GND	67	N/C	86	0.0	O	3.3
15	N/C	34	1.7	11	2.8	30	1.4	49	GND	68	N/C	87	0.0		
16	1.5	35	0.0	12	2.4	31	1.5	50	1.4	69	N/C	88	1.3		
17	1.5	36	1.9	13	1.9	32	3.2	51	0.0	70	N/C	89	0.5		

All voltages are in V.

C BOARD SCHEMATIC DIAGRAM





C BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q9001	7.5	GND	3.6
Q9002	0.2	11.1	GND
Q9003	2.1	12.0	3.2
Q9004	2.1	12.0	3.2
Q9005	3.2	12.0	2.1
Q9008	5.4	12.0	4.8
Q9009	3.2	GND	3.9
Q9010	3.2	GND	4.0
Q9011	3.2	GND	3.9
Q9012	5.4	10.5	4.8
Q9014	11.7	450.0	11.1

All voltages are in V.

C BOARD IC VOLTAGE LIST

IC9001		IC9002		IC9003	
pin	volt	pin	volt	pin	volt
1	3.5	1	3.5	1	3.5
2	12.0	2	12.0	2	12.0
3	3.5	3	3.5	3	3.5
4	GND	4	GND	4	GND
5	8.0	5	7.8	5	7.8
6	203.0	6	203.0	6	203.0
7	145.0	7	142.6	7	147.0
8	158.0	8	164.0	8	163.0
9	144.0	9	142.0	9	146.0

All voltages are in V.

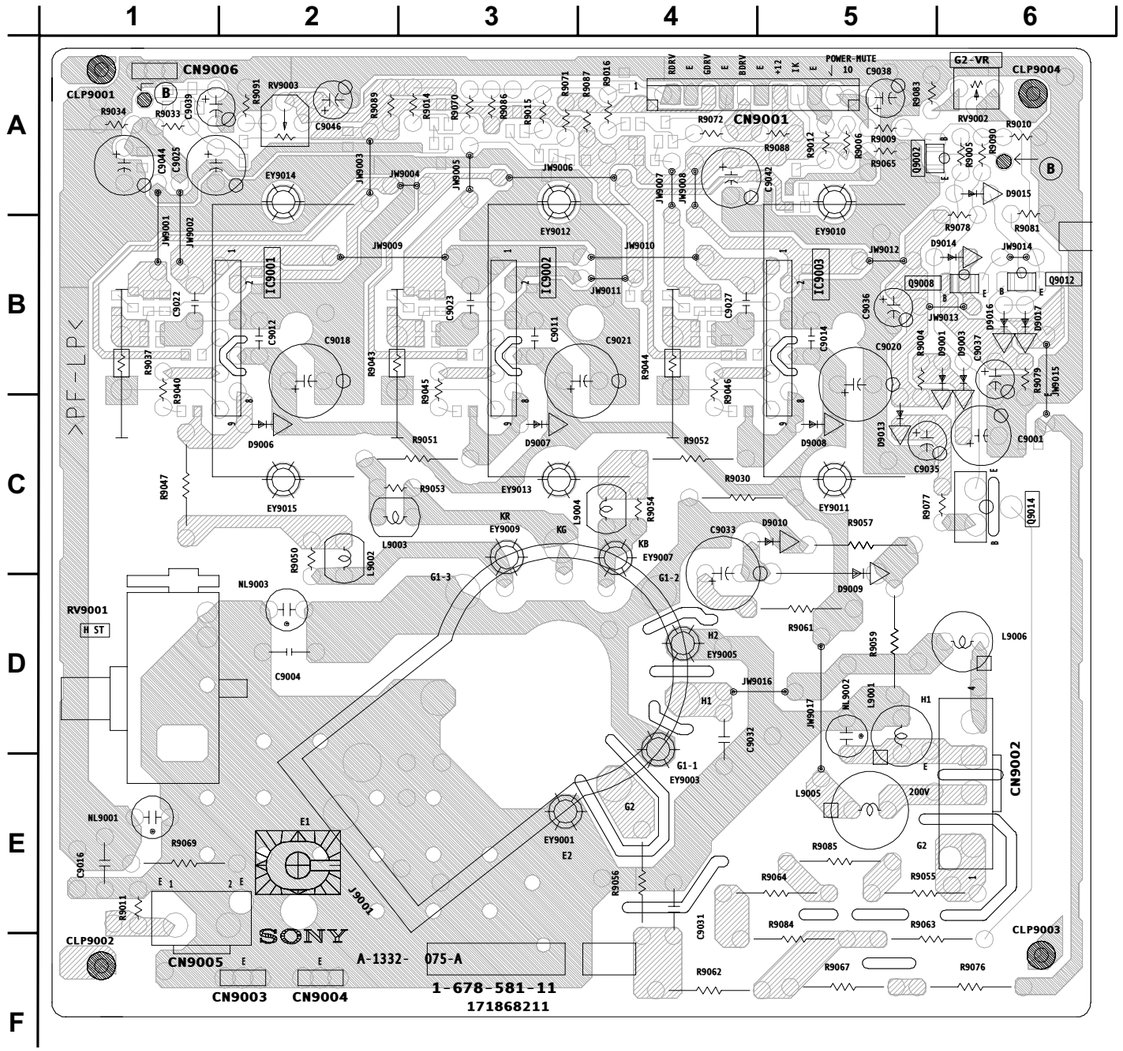
C BOARD WAVEFORMS

1	2	3	4	5	6
2.4 Vp-p (H)	2.1 Vp-p (H)	2.0Vp-p (H)	101 Vp-p (H)	99.5 Vp-p (H)	85.7 Vp-p (H)

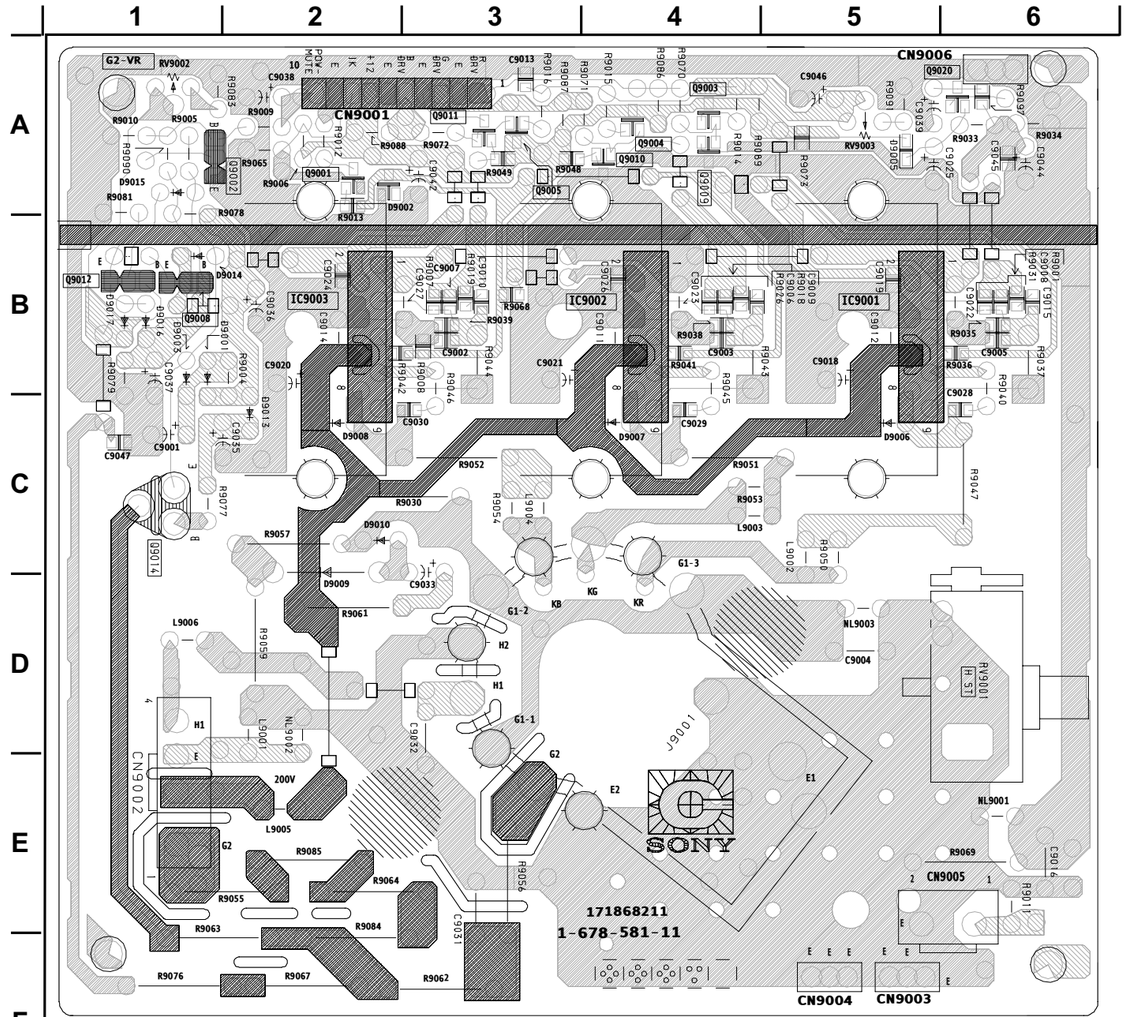
C

[TUNER, CRT DRIVE, MAIN UCOM, POWER SUPPLY, AUDIO]

COMPONENT SIDE



CONDUCTOR SIDE



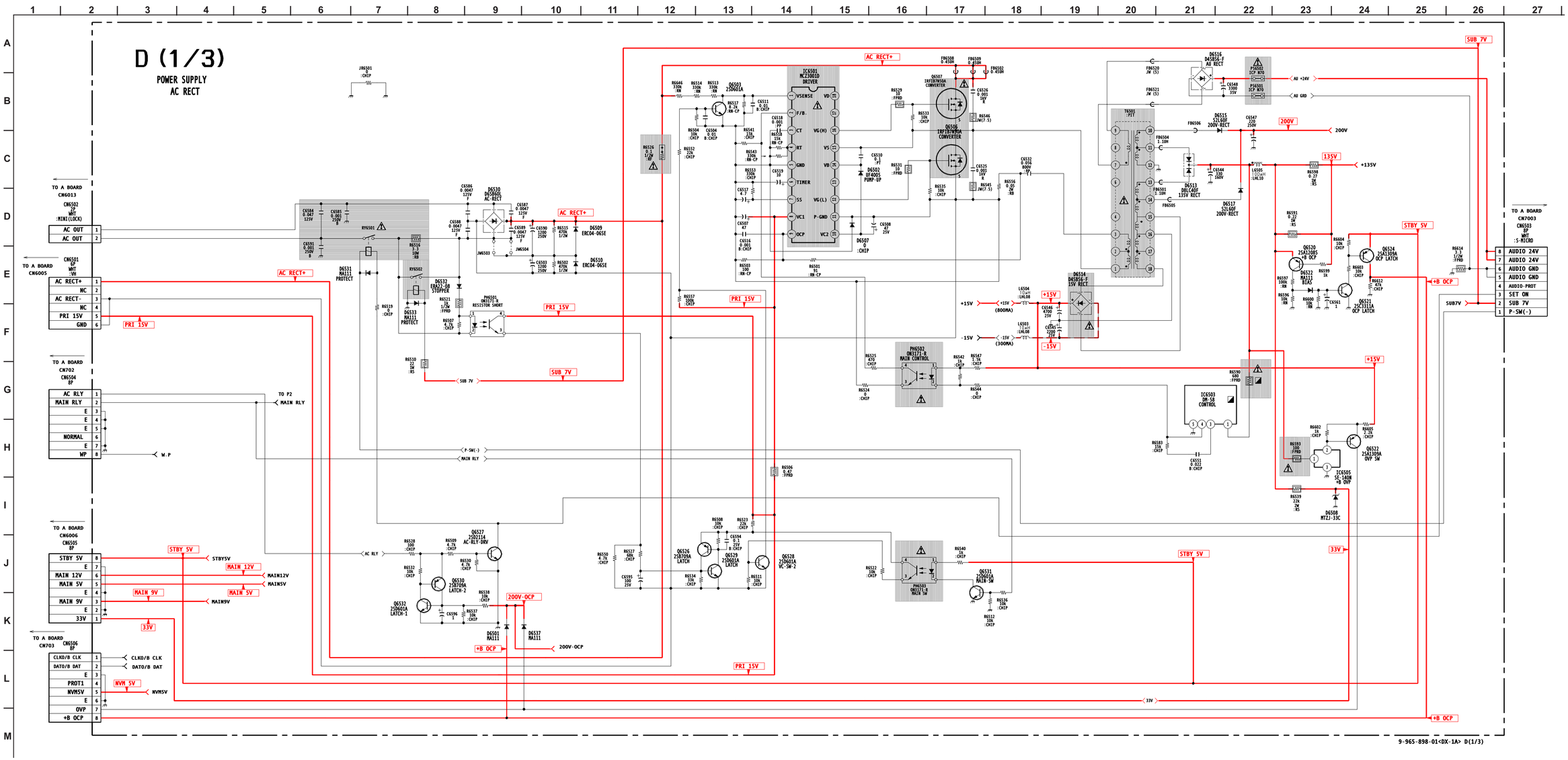
C BOARD LOCATOR LIST (COMPONENT SIDE)

DIODE		D9016	B-6
D9001	B-6	D9017	B-6
D9003	B-6	IC	
D9007	C-3	IC9001	B-2
D9008	C-5	IC9002	B-3
D9009	D-5	IC9003	B-5
D9010	C-5	TRANSISTOR	
D9013	C-5	Q9002	A-5
D9014	B-6	Q9014	C-6
D9015	A-6		

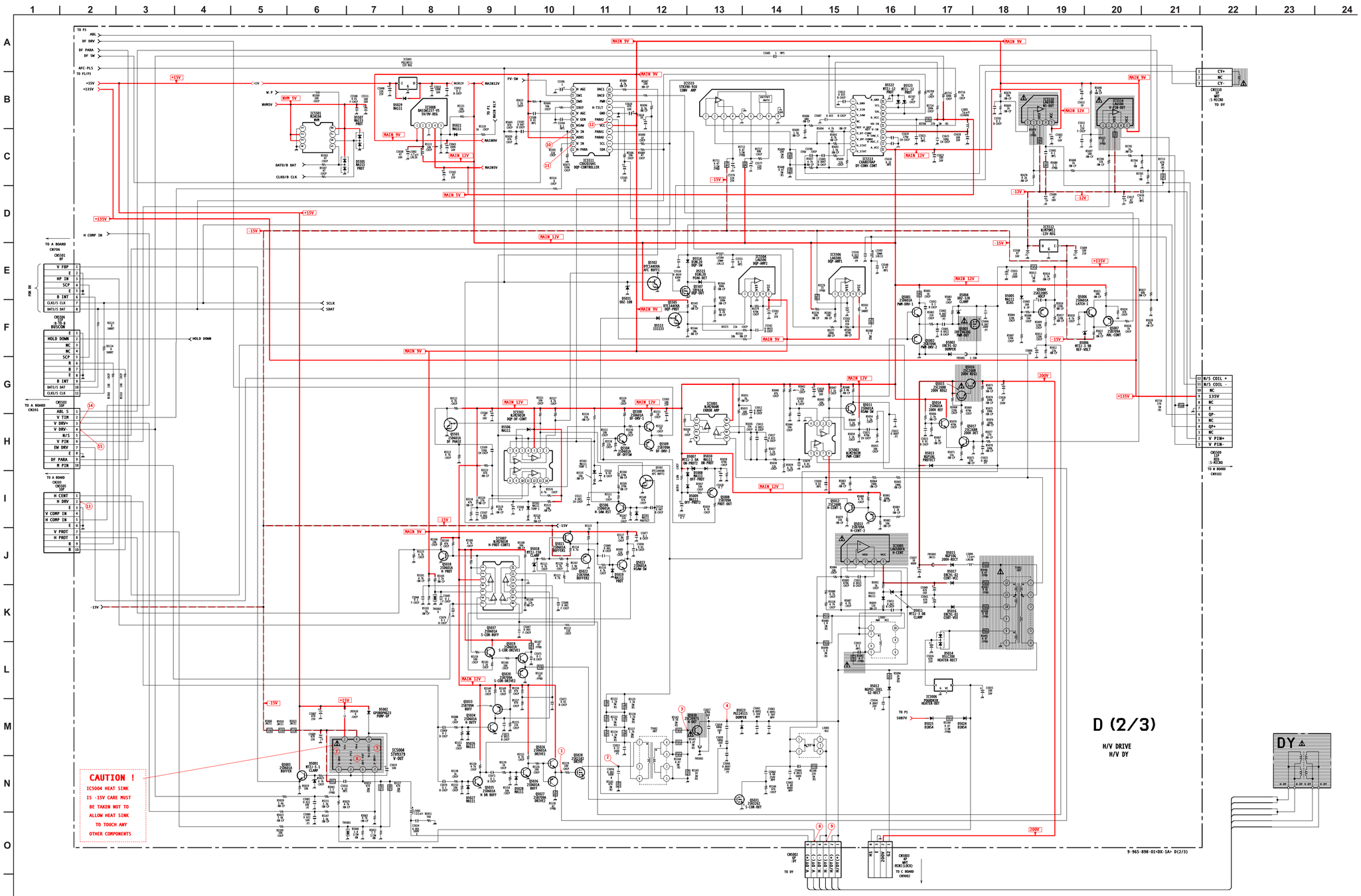
C BOARD LOCATOR LIST (COMPONENT SIDE)

DIODE		Q9004	A-4
D9002	A-2	Q9005	A-3
D9005	A-5	Q9008	B-1
D9006	C-5	Q9009	A-4
TRANSISTOR		Q9010	A-4
Q9001	A-2	Q9011	A-3
Q9003	A-4	Q9012	B-1

D BOARD SCHEMATIC DIAGRAM (1 OF 3)



D BOARD SCHEMATIC DIAGRAM (2 OF 3)



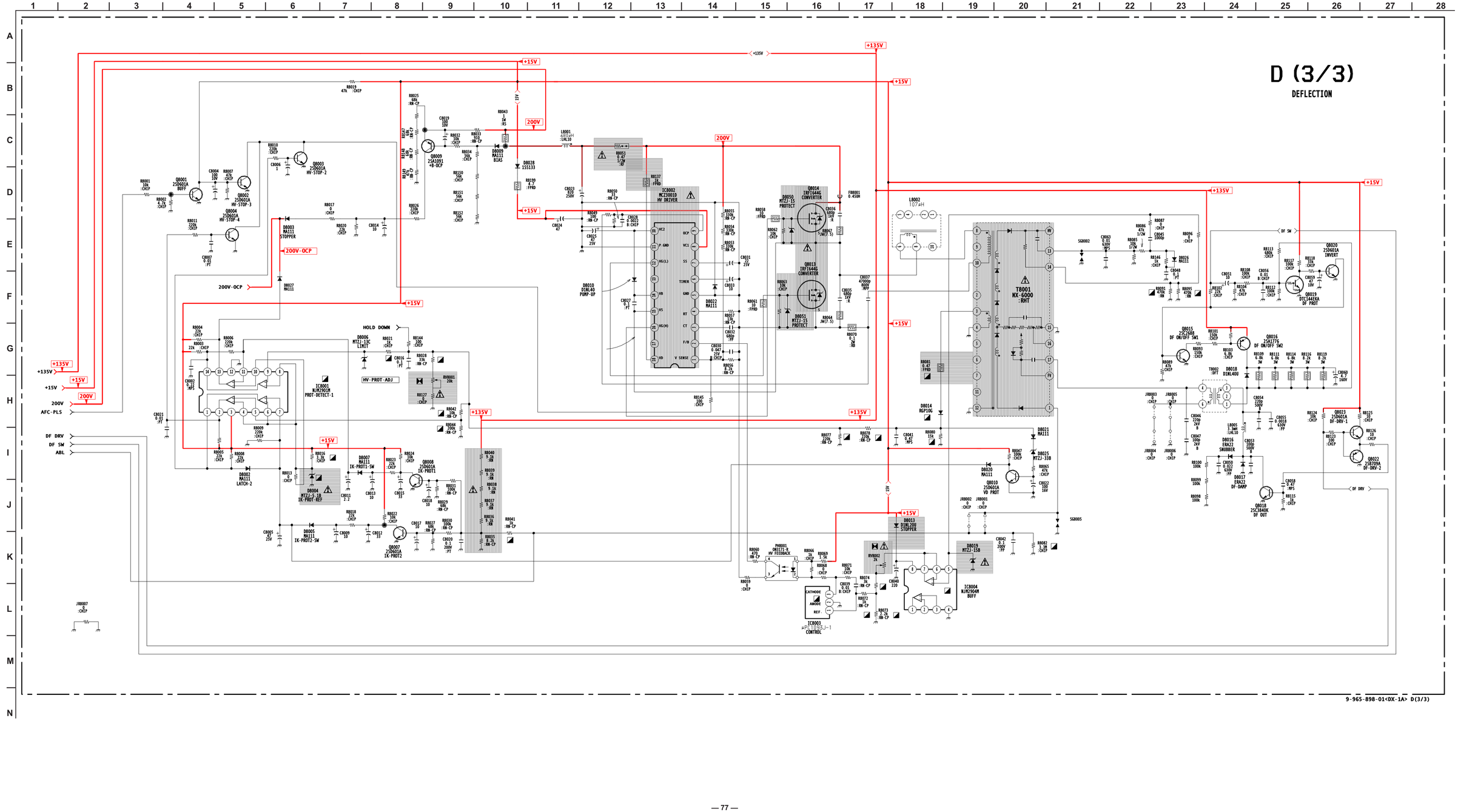
D BOARD WAVEFORMS

1 12 Vp-p (H)	2 152.4 Vp-p (H)	3 12.8Vp-p (H)
4 1.0 KVp-p (H)	5 8.0 Vp-p (V)	6 60.2 Vp-p (V)
7 7.3 Vp-p (V)	8 1.9 Vp-p (V)	9 94.6 Vp-p (H)
10 1.3 Vp-p (H)	11 5.1 Vp-p (V)	12 2.0 Vp-p (H)
13 2.9 Vp-p (H)	14 1.7 Vp-p (V).	15 1.5 Vp-p (V)

D BOARD SCHEMATIC DIAGRAM (3 OF 3)

D (3/3)

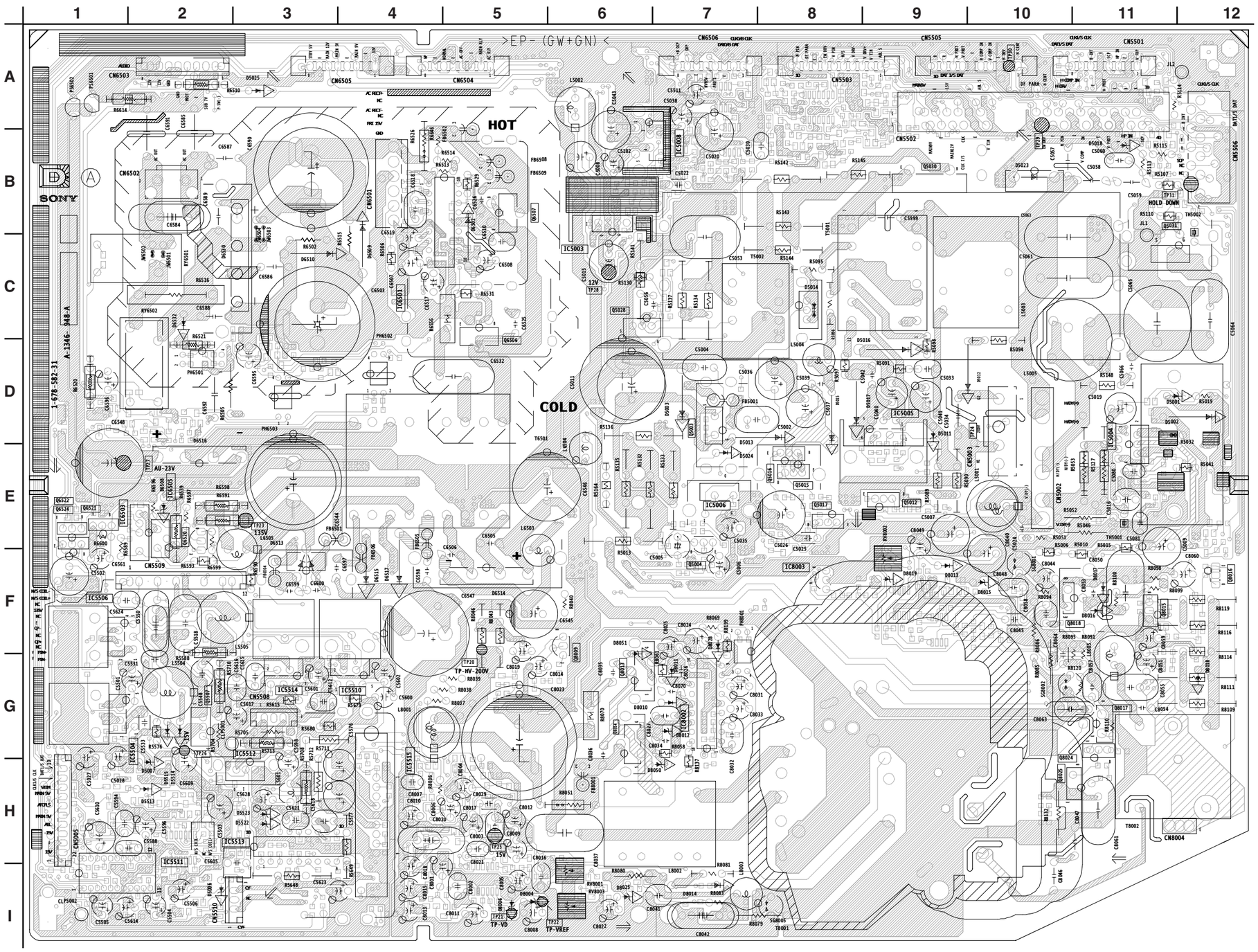
DEFLECTION



D

[POWER SUPPLY, AC RECT, H/V DRIVE, H/V DY, DEFLECTION]

COMPONENT SIDE

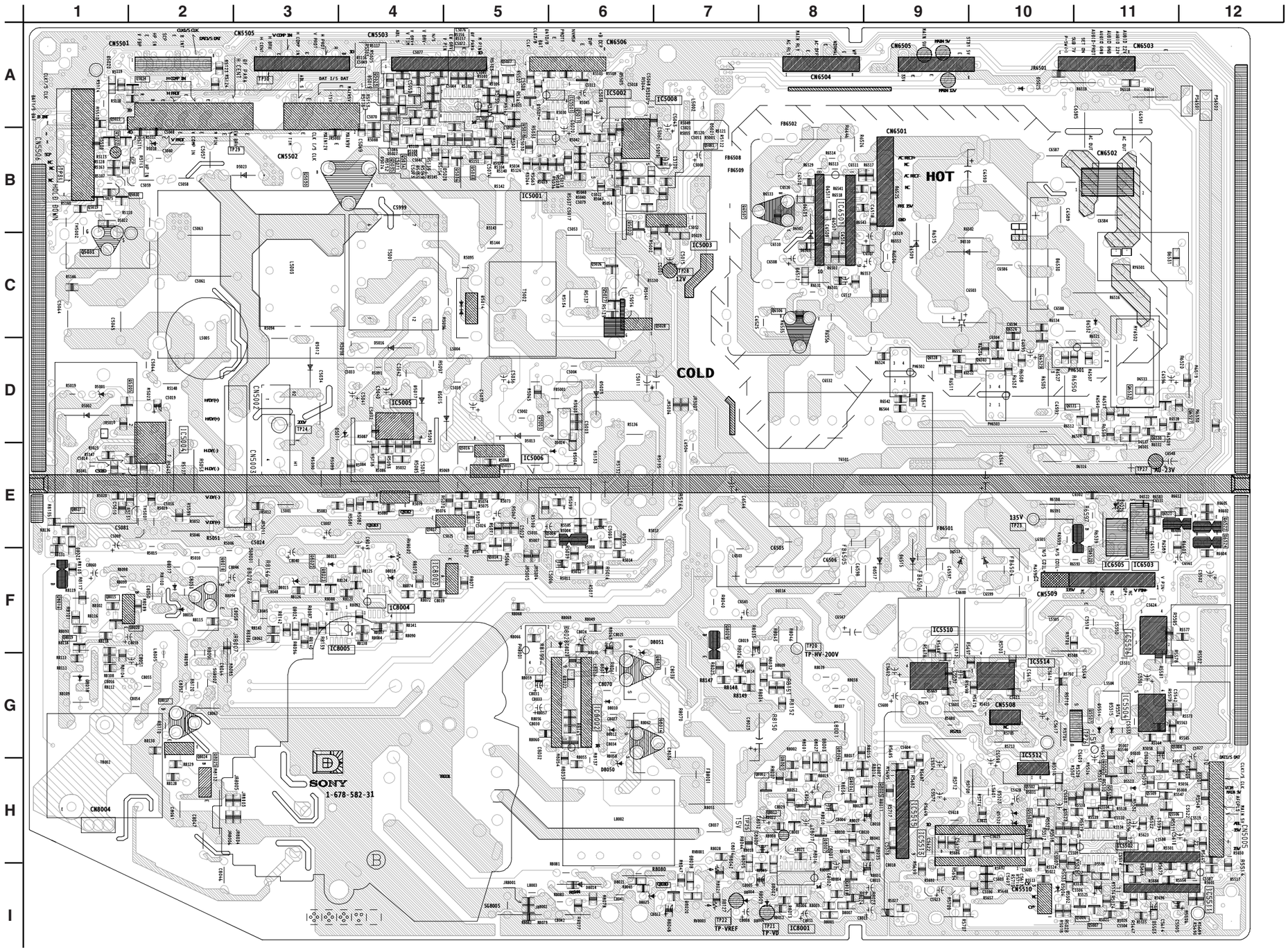


D BOARD LOCATOR LIST (COMPONENT SIDE)

DIODE		IC	
D5001	D-12	IC5004	D-11
D5002	D-12	IC5005	D-9
D5003	D-7	IC5006	E-7
D5006	I-2	IC5504	H-2
D5007	H-2	IC5506	F-1
D5011	D-9	IC5510	G-4
D5012	D-10	IC5511	I-2
D5013	D-7	IC5512	H-3
D5014	C-8	IC5513	H-3
D5015	D-8	IC5514	G-3
D5016	C-9	IC5515	H-4
D5017	D-9	IC6501	C-4
D5018	B-11	IC6503	E-2
D5023	B-10	IC6505	E-2
D5024	E-7	IC8002	G-7
D5025	A-3	IC8003	F-8
D5513	H-2	**TRANSISTOR**	
D5514	H-2	Q5003	D-7
D5515	H-2	Q5004	F-7
D5522	H-3	Q5030	B-9
D5523	H-3	Q5031	B-11
D6502	C-5	Q5507	G-2
D6508	E-2	Q6507	B-5
D6509	C-4	Q6521	E-1
D6510	C-3	Q6522	E-1
D6513	F-3	Q6524	E-1
D6514	G-6	Q8009	G-6
D6515	F-4	Q8013	G-6
D6516	D-2	Q8014	G-6
D6517	F-4	Q8015	F-11
D6532	C-2	Q8018	F-11
D8004	I-5		
D8006	I-5		
D8017	F-11		
D8018	G-12		
D8019	F-9		
D8025	I-6		

D [POWER SUPPLY, AC RECT, H/V DRIVE, H/V DY, DEFLECTION]

CONDUCTOR SIDE



D BOARD LOCATOR LIST (CONDUCTOR SIDE)

DIODE		D8021	I-6	Q5033	B-4
D5004	E-6	D8022	G-6	Q5034	B-4
D5005	F-6	D8026	G-5	Q5035	B-4
D5008	H-12	D8027	G-8	Q5036	B-5
D5009	H-12	**IC**		Q5037	A-5
D5010	H-11	IC5001	B-5	Q5501	H-10
D5019	B-3	IC5002	A-6	Q5502	H-10
D5021	B-6	IC5003	C-7	Q5503	H-10
D5026	B-4	IC5007	A-5	Q5504	H-11
D5027	B-4	IC5008	A-7	Q5505	H-11
D5028	B-4	IC5501	A-6	Q5506	H-12
D5029	C-7	IC5502	H-11	Q5508	H-11
D5031	H-10	IC8001	I-8	Q5509	H-11
D5032	E-4	IC8004	F-4	Q6503	D-10
D5501	I-12	**TRANSISTOR**		Q6506	D-7
D5502	I-11	Q5001	B-7	Q6520	F-11
D5503	I-12	Q5002	B-7	Q6526	C-10
D5505	A-6	Q5005	D-2	Q6527	D-11
D5506	H-11	Q5006	I-11	Q6528	D-9
D5507	B-5	Q5007	I-11	Q6529	D-11
D6501	D-11	Q5008	G-12	Q6530	D-11
D6507	B-8	Q5011	A-6	Q6531	D-10
D6522	E-11	Q5012	E-4	Q6532	D-11
D6530	C-10	Q5013	E-4	Q8001	H-8
D6531	C-11	Q5014	E-4	Q8002	H-8
D6533	D-11	Q5015	E-5	Q8003	H-8
D6537	E-11	Q5016	E-5	Q8004	H-8
D8002	I-8	Q5017	E-4	Q8007	H-8
D8003	I-8	Q5018	B-5	Q8008	I-8
D8005	I-8	Q5019	B-1	Q8010	I-7
D8007	I-8	Q5020	B-2	Q8016	F-1
D8009	G-7	Q5021	B-2	Q8019	F-1
D8010	G-6	Q5022	B-2	Q8020	F-2
D8013	F-4	Q5023	A-4	Q8022	F-4
D8014	I-6	Q5026	C-6	Q8023	F-4
D8016	F-2	Q5027	C-6		
D8020	I-7	Q5028	C-7		

D BOARD IC VOLTAGE LIST (1 OF 3)

IC6501		11	0.0	3	2.5
pin	volt	12	4.6	4	11.8
1	2.5	13	N/C	5	GND
2	1.8	14	163.6	IC6505	
3	2.2	15	153.5	pin	volt
4	2.5	16	157.6	1	134.9
5	GND	17	N/C	2	15.7
6	0.0	18	1.7	3	GND
7	4.0	IC6503			
8	17.2	pin	volt		
9	GND	1	134.0		
10	10.4	2	N/C		

All voltages are in V.

D BOARD TRANSISTOR VOLTAGE LIST (1 OF 3)

	B	C	E
Q6503	0.0	2.5	0.0
Q6520	131.0	0.0	132.0
Q6521	0.0	2.1	GND
Q6522	15.7	GND	15.7
Q6524	2.1	0.4	4.9
Q6526	5.9	0.0	5.9
Q6527	0.6	0.0	0.0
Q6528	0.6	0.0	0.0
Q6529	0.0	5.9	0.0
Q6530	4.7	0.0	4.7
Q6531	0.6	0.0	GND
Q6532	0.0	4.7	GND

	D	G	S
Q6506	4.7	149.2	0.0
Q6507	154.4	303.3	150.0

All voltages are in V.

D BOARD IC VOLTAGE LIST (2 OF 3)

IC5001		5	0.2	14	0.6	12	GND	6	4.2	8	5.0
pin	volt	6	16.2	**IC5008**		13	3.7	7	GND	9	5.0
1	11.0	7	1.2	pin	volt	14	0.0	8	4.2	10	12.1
2	11.0	**IC5005**		1	9.1	**IC5504**		9	1.9	11	4.0
3	1.7	pin	volt	2	12.0	pin	volt	10	4.4	12	5.0
4	GND	1	100.0	3	GND	1	4.2	11	4.4	13	5.0
5	4.0	2	99.7	4	5.0	2	4.2	12	6.4	14	0.5
6	4.0	3	95.3	5	5.2	3	GND	13	N/C	15	1.1
7	5.9	4	100.0	**IC5501**		4	5.5	14	8.2	16	4.6
8	12.1	5	104.6	pin	volt	5	9.0	15	1.9	17	4.6
IC5002		**IC5006**		1	GND	**IC5506**		16	4.0	18	GND
pin	volt	pin	volt	2	5.0	pin	volt	17	4.9	**IC5514**	
1	0.1	I	7.8	3	5.0	1	4.3	18	N/C	pin	volt
2	6.0	G	GND	4	GND	2	4.3	19	3.6	1	0.3
3	3.8	O	6.3	5	4.6	3	-15.5	20	9.0	2	0.3
4	GND	VCC	2.7	6	4.6	4	4.4	21	0.9	3	-12.0
5	2.3	**IC5007**		7	5.0	5	9.0	22	3.4	4	0.7
6	3.7	pin	volt	8	5.0	**IC5510**		**IC5512**		5	9.0
7	2.9	1	3.1	**IC5502**		pin	volt	pin	volt	**IC5515**	
8	12.1	2	0.6	pin	volt	1	0.6	I	-15.8	pin	volt
IC5003		3	12.1	1	5.4	2	0.6	G	GND	1	3.4
pin	volt	4	1.5	2	2.4	3	-11.9	O	-12.0	2	3.4
I	15.6	5	2.3	3	12.1	4	2.4	**IC5513**		3	-9.6
G	GND	6	3.9	4	3.6	5	12.1	pin	volt	4	-15.3
O	12.1	7	2.8	5	3.4	**IC5511**		1	4.5	5	GND
IC5004		8	0.0	6	3.4	pin	volt	2	4.9	6	12.0
pin	volt	9	3.0	7	3.9	1	4.6	3	4.9	7	-14.0
1	1.2	10	1.4	8	1.0	2	4.6	4	4.6	8	2.7
2	15.6	11	6.1	9	1.0	3	4.0	5	5.0	9	GND
3	-12.6	12	GND	10	0.0	4	4.2	6	5.0	All voltages are in V.	
4	-14.5	13	2.5	11	0.0	5	9.0	7	N/C		

D BOARD TRANSISTOR VOLTAGE LIST (2 OF 3)

	B	**C**	**E**		**B**	**C**	**E**		**B**	**C**	**E**		**B**	**C**	**E**
Q5001	2.9	12.0	3.3	Q5014	6.6	12.1	6.1	Q5027	5.2	0.0	5.2	Q5505	0.0	4.2	GND
Q5002	2.9	GND	3.3	Q5015	202.8	212.4	203.2	Q5030	132.0	0.0	GND	Q5506	0.3	3.6	GND
Q5003	127.4	134.1	23.3	Q5016	203.2	212.4	202.6	Q5033	10.0	1.4	10.5	Q5508	4.0	12.1	4.6
Q5004	132.0	0.0	133.0	Q5017	6.5	164.8	6.1	Q5034	0.0	1.4	GND	Q5509	4.0	GND	4.6
Q5005	-0.5	15.6	0.1	Q5018	0.6	1.9	GND	Q5035	0.0	2.5	GND	All voltages are in V.			
Q5006	-12.0	1.0	-12.6	Q5019	3.7	12.1	2.9	Q5036	0.1	5.2	GND				
Q5007	4.4	-12.6	4.8	Q5020	3.7	GND	2.9	Q5037	3.1	12.1	GND		**D**	**G**	**S**
Q5008	11.9	0.0	10.7	Q5021	0.4	9.0	0.5	Q5501	2.4	12.1	3.7	Q5028	5.2	33.5	0.0
Q5011	0.1	3.9	GND	Q5022	0.4	GND	1.1	Q5502	0.5	5.4	GND	Q5031	2.9	12.6	GND
Q5012	3.7	97.7	3.2	Q5023	0.4	3.9	GND	Q5503	0.5	2.4	GND	Q5507	5.4	6.9	GND
Q5013	3.1	GND	3.7	Q5026	5.2	12.1	5.2	Q5504	0.0	4.0	GND	All voltages are in V.			

D BOARD IC VOLTAGE LIST (3 OF 3)

IC8001		10	5.0	5	GND	16	99.0	2	0.9
pin	volt	11	0.1	6	0.0	17	N/C	3	0.9
1	0.1	12	GND	7	4.7	18	198.0	4	GND
2	0.0	13	0.1	8	15.6	IC8003		5	7.1
3	15.6	14	0.1	9	0.0	pin	volt	6	7.1
4	5.0	IC8002		10	10.4	1	2.4	7	7.1
5	0.0	pin	volt	11	GND	2	GND	8	15.2
6	5.0	1	1.6	12	4.5	3	11.0	All voltages are in V.	
7	0.0	2	1.8	13	N/C	IC8004			
8	5.0	3	2.2	14	104.8	pin	volt		
9	4.2	4	2.5	15	94.8	1	14.0		

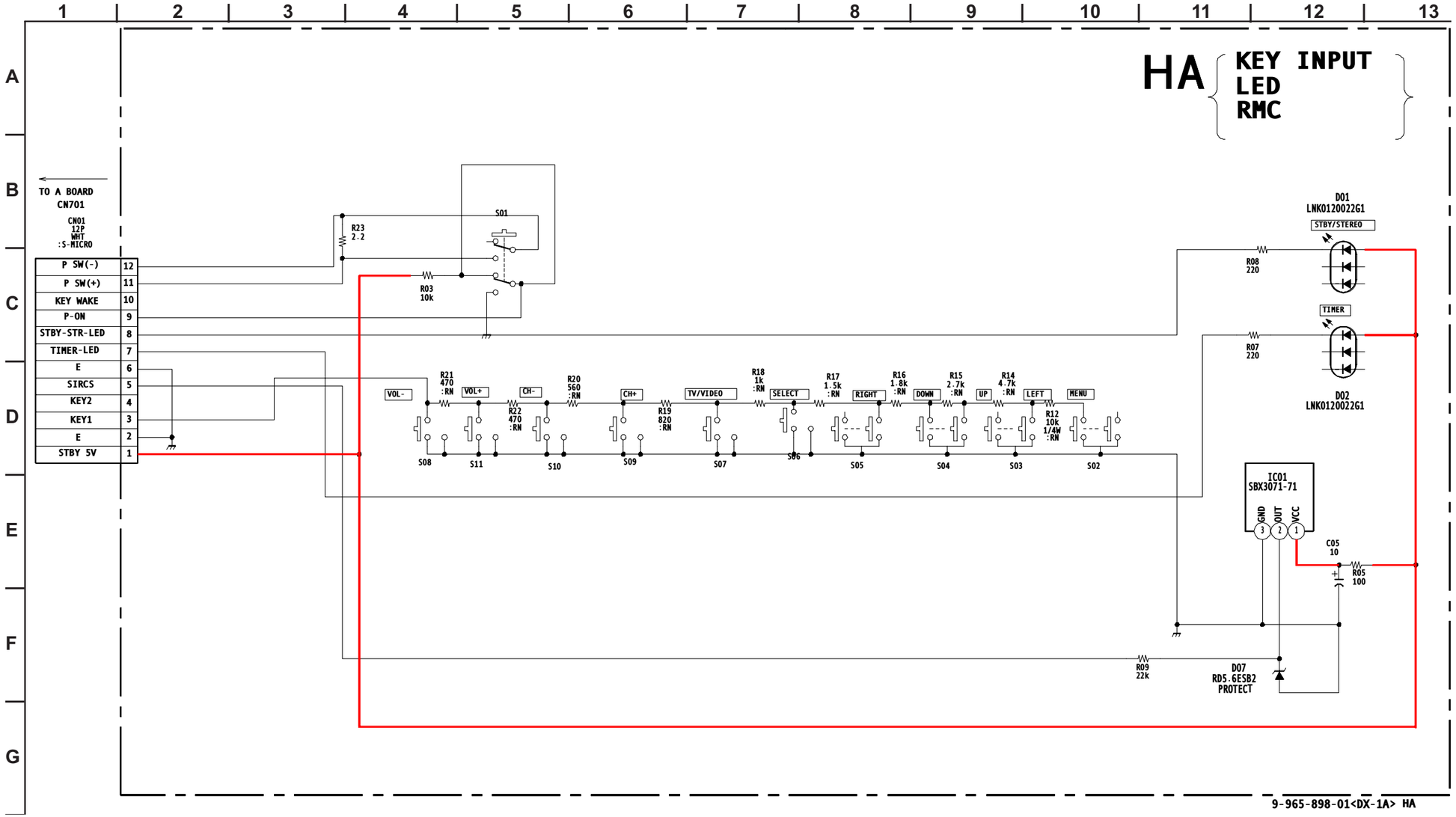
D BOARD TRANSISTOR VOLTAGE LIST (3 OF 3)

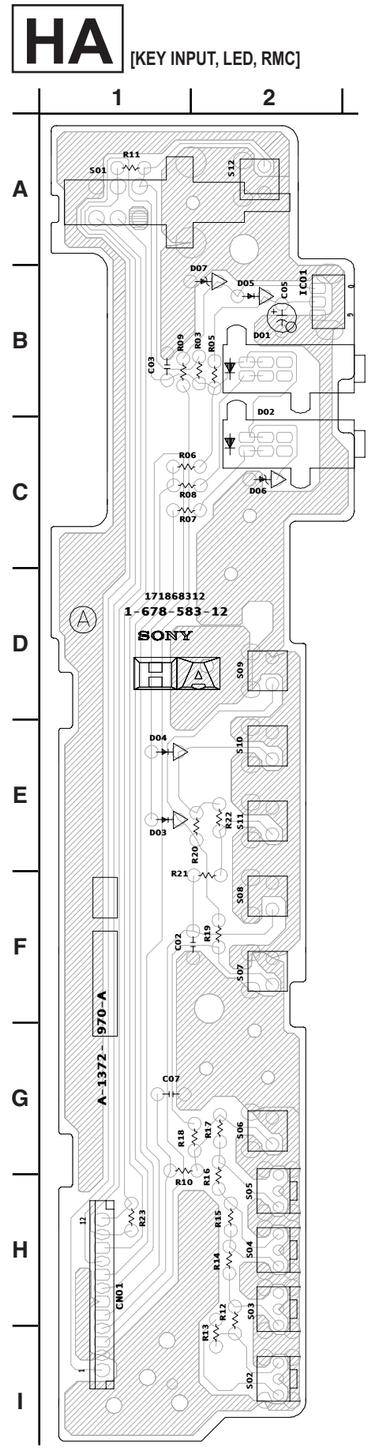
	B	C	E
Q8001	0.1	0.0	GND
Q8002	0.0	1.6	GND
Q8003	0.2	1.6	GND
Q8004	0.0	1.6	GND
Q8007	0.6	0.0	GND
Q8008	0.6	0.0	GND
Q8009	196.0	0.0	196.0
Q8010	2.1	0.0	GND
Q8015	0.5	0.0	GND
Q8016	134.5	134.7	135.1
Q8018	-5.5	94.4	GND
Q8019	3.5	0.0	GND
Q8020	0.0	0.5	GND
Q8022	4.6	GND	4.9
Q8023	4.6	15.5	4.9

	D	G	S
Q8013	4.6	94.8	GND
Q8014	99.0	198.0	93.2

All voltages are in V.

HA BOARD SCHEMATIC DIAGRAM



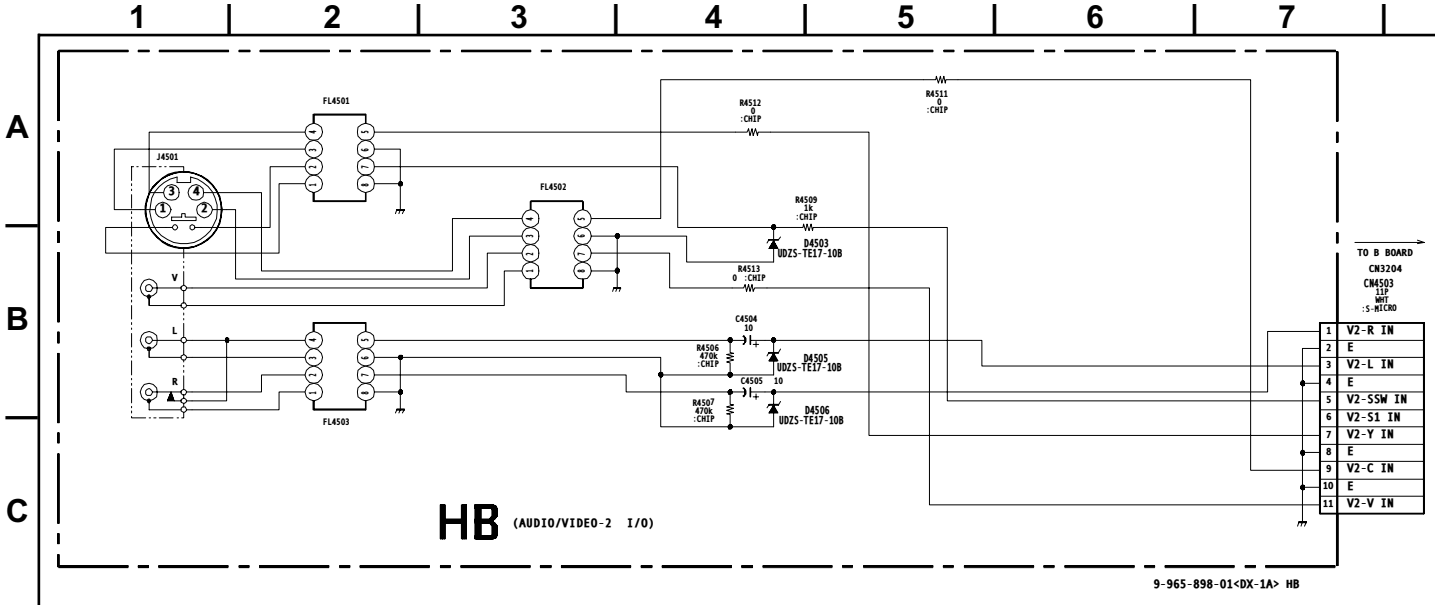


HA BOARD
IC VOLTAGELIST

IC01	
pin	volt
1	4.9
2	0.0
3	4.3

All voltages are in V.

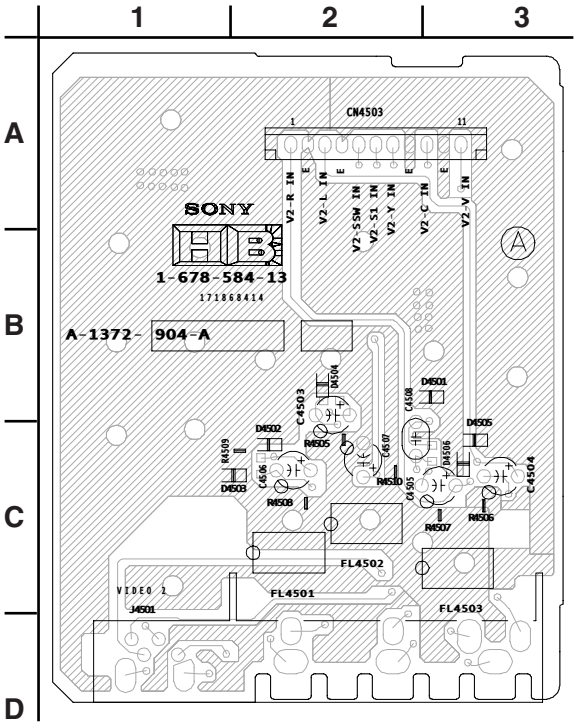
HB BOARD SCHEMATIC DIAGRAM



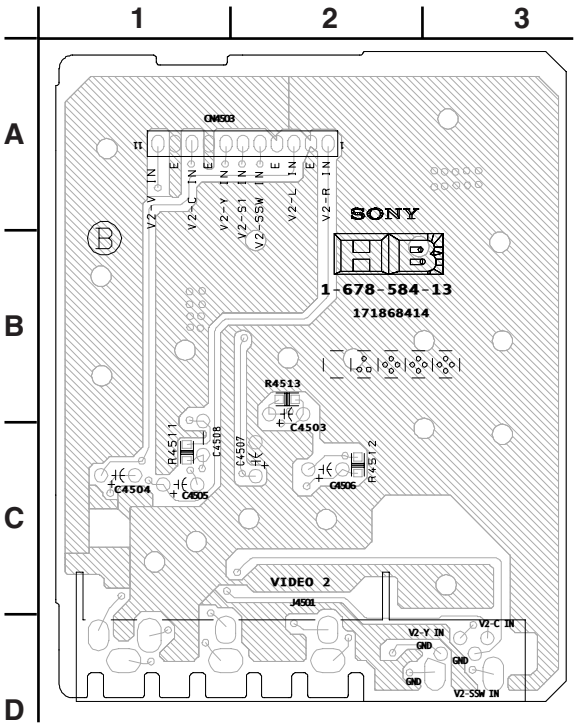
HB

[AUDIO/VIDEO 2, I/O]

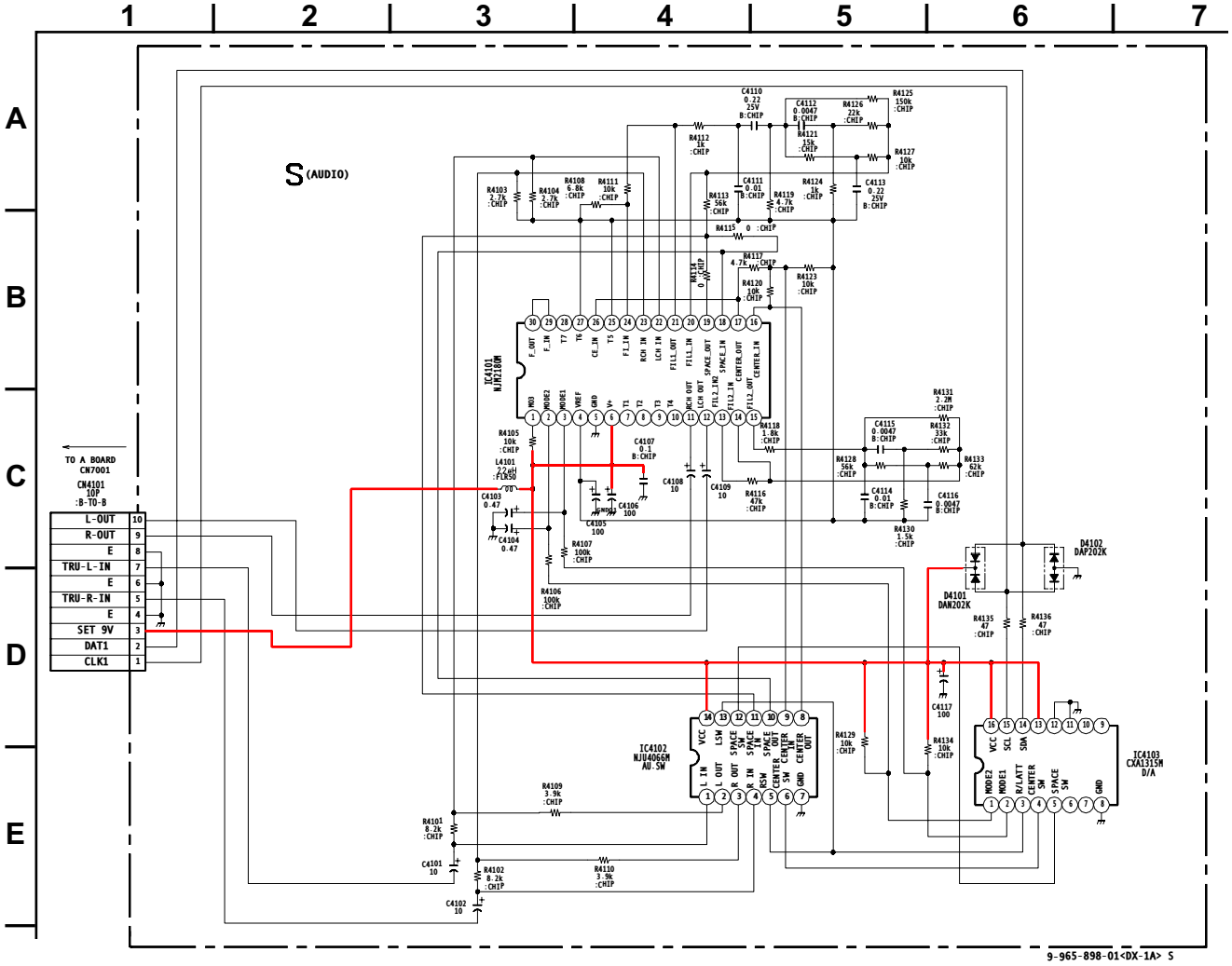
COMPONENT SIDE



CONDUCTOR SIDE

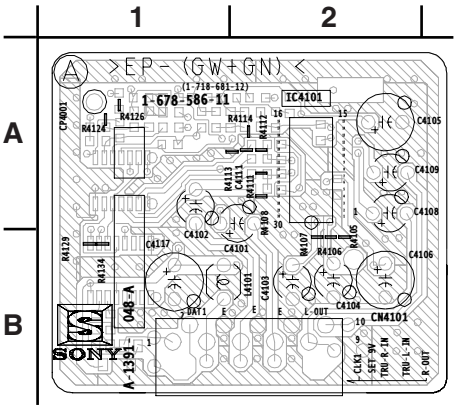


S BOARD SCHEMATIC DIAGRAM

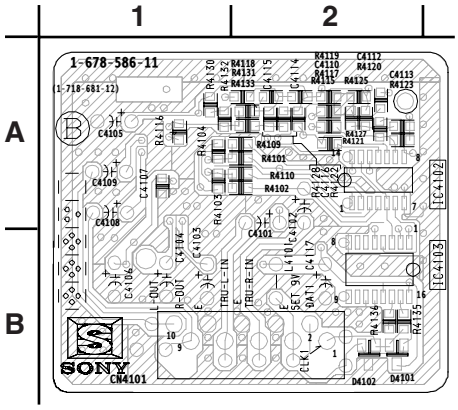


S [AUDIO]

COMPONENT SIDE



CONDUCTOR SIDE



S BOARD IC VOLTAGE LIST

IC4101		22	4.5	13	8.6
pin	volt	23	4.5	14	9.0
1	8.4	24	4.5	IC4103	
2	0.1	25	4.5	pin	volt
3	0.1	26	4.5	1	0.1
4	4.5	27	4.5	2	0.1
5	GND	28	NC	3	8.6
6	9.0	29	4.5	4	0.3
7	NC	30	4.5	5	0.3
8	NC	IC4102		6	NC
9	NC	pin	volt	7	NC
10	NC	1	4.5	8	GND
11	4.5	2	4.5	9	NC
12	4.5	3	4.5	10	NC
13	4.5	4	4.5	11	GND
14	4.5	5	8.6	12	GND
15	4.5	6	0.3	13	9.0
16	4.5	7	GND	14	4.5
17	4.5	8	4.5	15	4.5
18	4.5	9	4.5	16	9.0
19	4.5	10	4.5	All voltages are in V.	
20	4.5	11	4.5		
21	4.5	12	0.3		

U BOARD SCHEMATIC DIAGRAM

U (VIDEO I/O)

VIDEO 6

J2408 5P YPBPR FOR HD OR DVD

VIDEO 5

J2407 5P YPBRR FOR HD OR DVD

VIDEO 4

J2402

VIDEO 1

J2401 6P S TERMINAL BLOCK

VIDEO 3

J2409 2P VAR OR FIX OUT

J2403 MONITOR OUT

J2406 3P

J2405 3P

CONTROL S IN

CONTROL S OUT

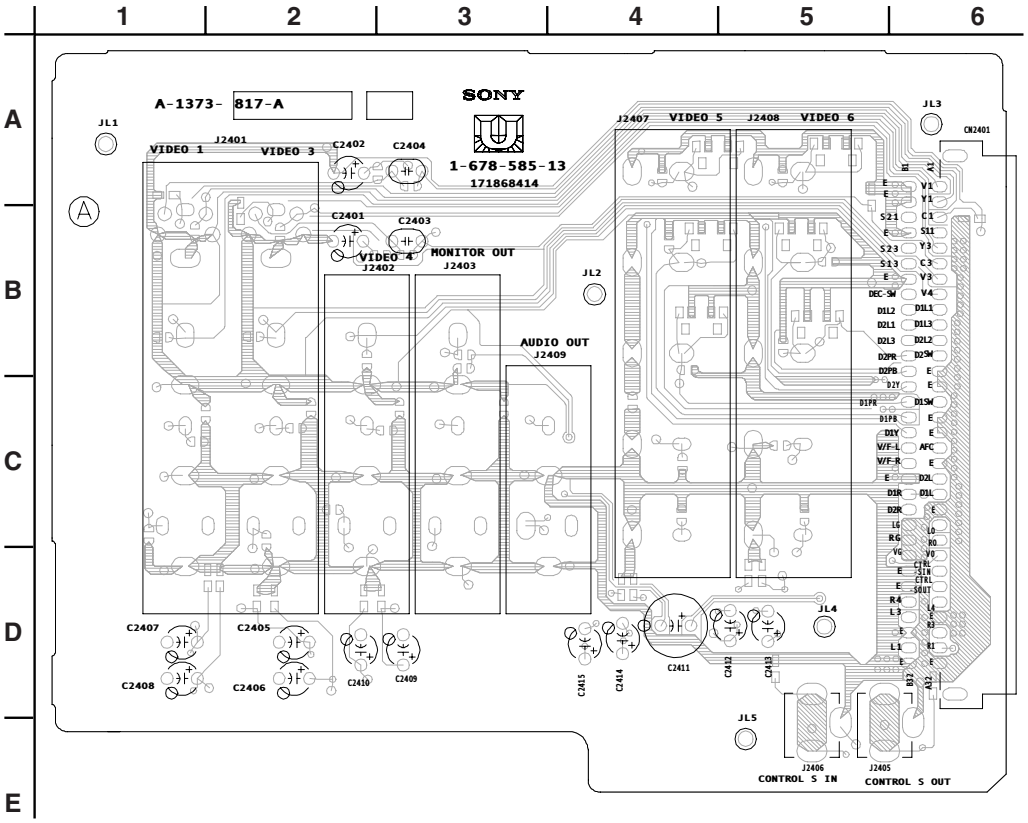
9-965-898-01<DX-1A> U

TO B BOARD CN3205

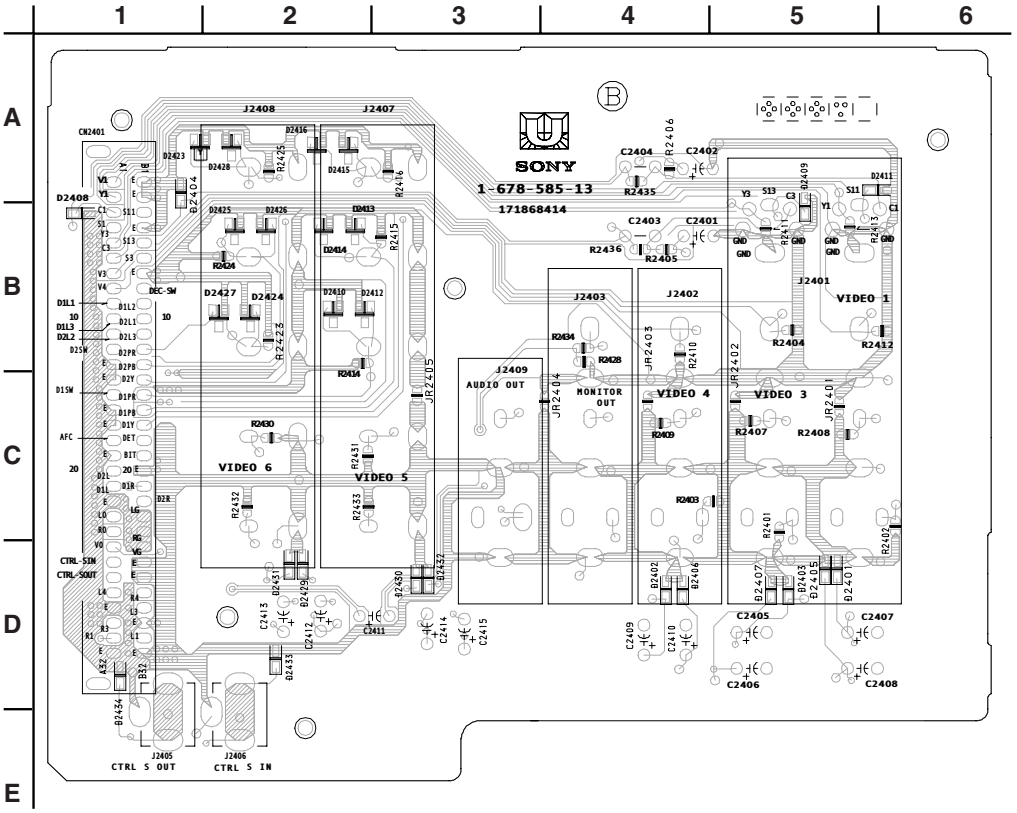
CN2401 64P :DIN

U [VIDEO I/O]

COMPONENT SIDE



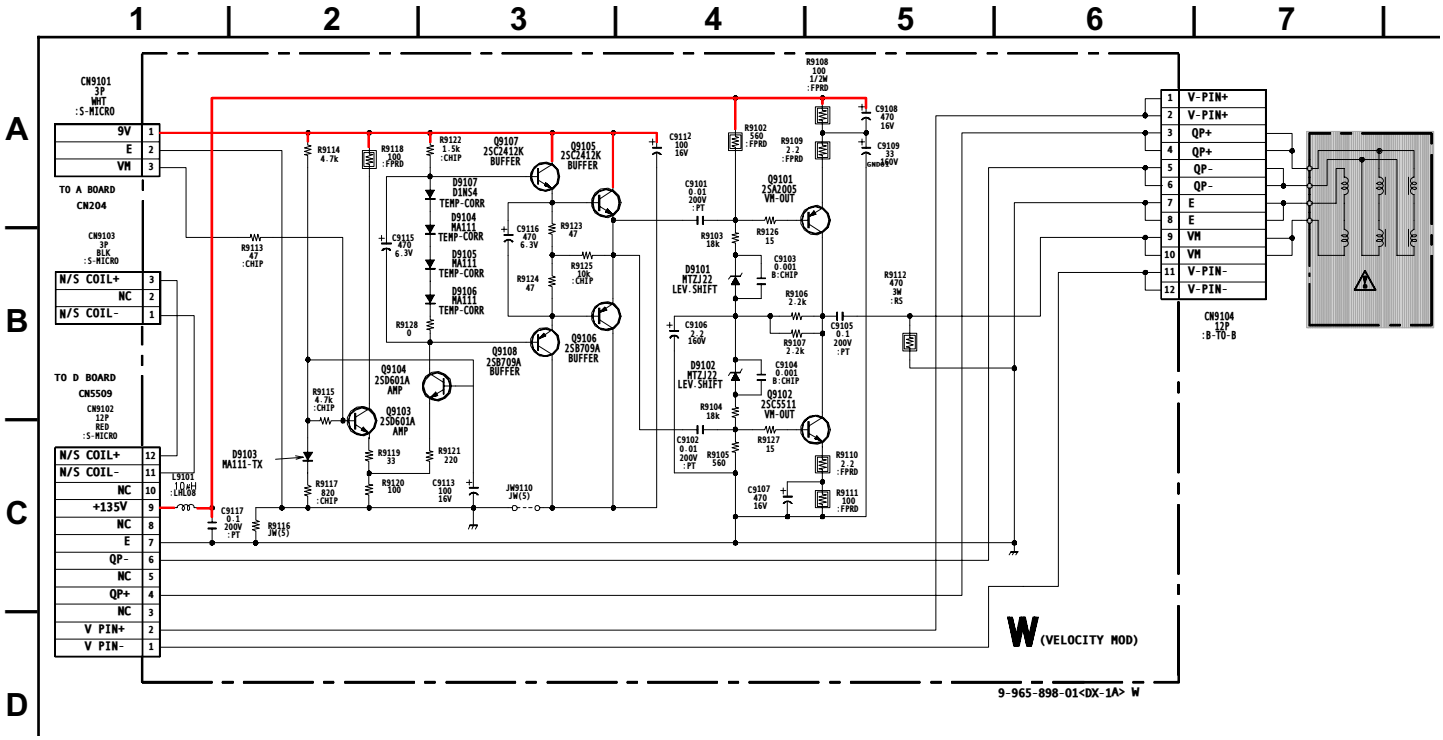
CONDUCTOR SIDE



U BOARD LOCATOR LIST

DIODE		D2416	A-2
D2401	D-5	D2423	A-1
D2402	D-4	D2424	B-2
D2403	D-5	D2425	B-2
D2405	D-5	D2426	B-2
D2406	D-4	D2427	B-2
D2407	D-5	D2428	A-2
D2409	A-5	D2429	D-2
D2410	B-2	D2430	D-3
D2411	A-5	D2431	D-2
D2412	B-2	D2432	D-3
D2413	B-2	D2433	D-2
D2414	B-2	D2434	D-1
D2415	A-2		

W BOARD SCHEMATIC DIAGRAM



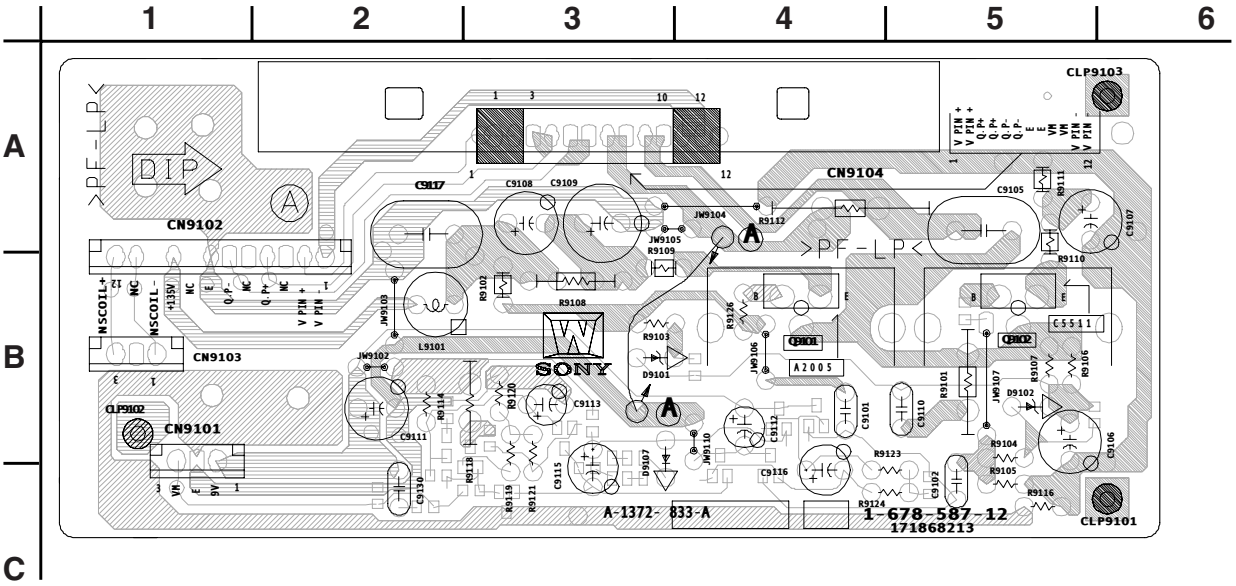
W BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q9101	133.8	67.5	134.3
Q9102	1.3	67.5	0.8
Q9103	2.9	0	9.0
Q9104	9.0	5.1	0
Q9105	5.1	9.0	4.7
Q9106	4.1	GND	4.7
Q9107	5.9	9.0	5.1
Q9108	3.5	GND	4.1
Q9109	2.9	GND	3.5

All voltages are in V.

W [VELOCITY MOD]

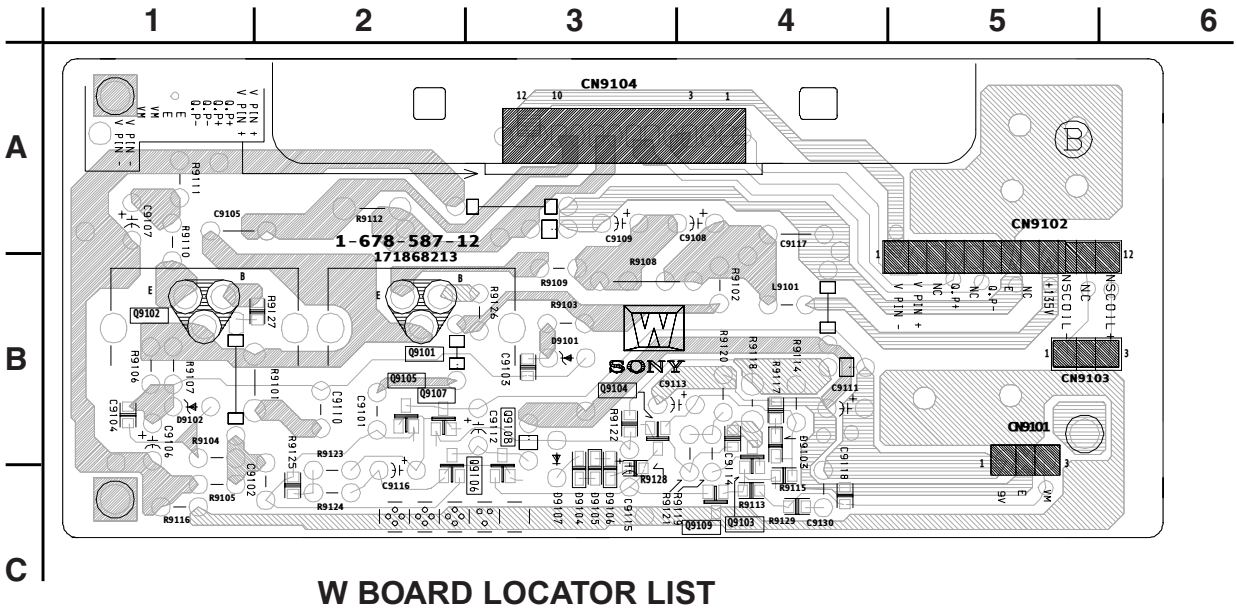
COMPONENT SIDE



W BOARD LOCATOR LIST (COMPONENT SIDE)

DIODE		TRANSISTOR	
D9101	B-3	Q9101	B-4
D9102	B-5	Q9102	B-5
D9107	C-3		

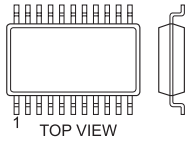
CONDUCTOR SIDE



W BOARD LOCATOR LIST (CONDUCTOR SIDE)

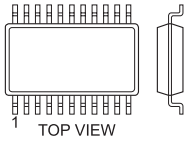
DIODE		TRANSISTOR		Q9107	B-2
D9103	B-4	Q9103	C-4	Q9108	B-3
D9104	C-3	Q9104	B-3		
D9105	C-3	Q9105	B-2		
D9106	C-3	Q9106	B-3		

5-4. SEMICONDUCTORS



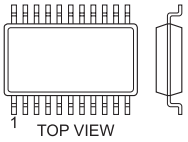
8pin

BR24C04F-WE2
BR24C08
NJM2901M-TE2
NJM2903M
NJM2904M
NJM4558E(TE2)
TC7WU04FU(TE12R)
TDA2822D



14pin

M52055FP
MC74HC4066F
TLC2932IPW
TLC2933IPWR-12



16pin

CXD2085M-T4
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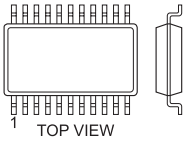

28pin

CXD2057M-T6
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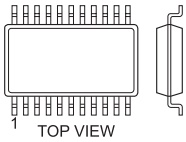
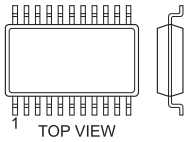


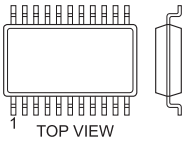
32pin

BH3868AFS-E2



50pin

MSM56V16160F-10TS-K



86pin

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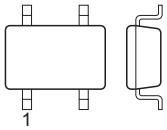
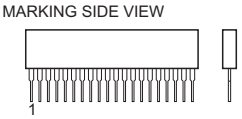


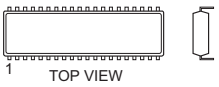
5pin

PST9120NL
PST9145NL
TC7SET08FU(TE85L)



8pin

UPC1406HA

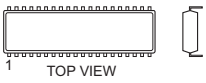


14pin

IR2112

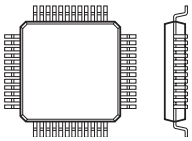
18pin

MCZ3001D



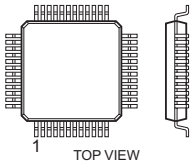
22pin

CXA2026AS



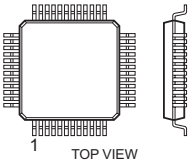
32pin

CXD2073Q-T4



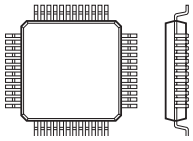
48pin

CXA2103Q
CXA2150Q
CXD2309Q



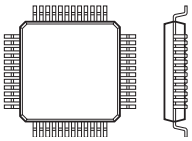
64pin

TLC5733AIPM



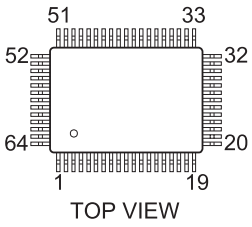
208pin

CXD2090Q

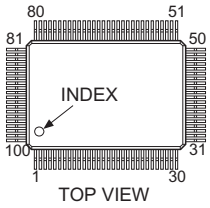


240pin

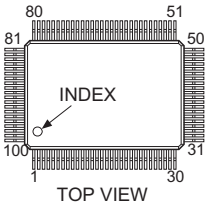
CXD9509AQ



CXA2069Q



CXA2150Q



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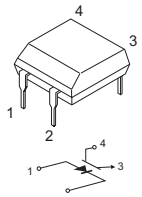
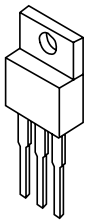
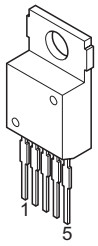
M306V2ME-102FP



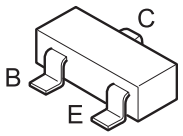
PC123FV2



NJM79M12FA

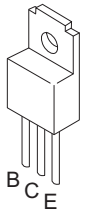


LA6500-FA

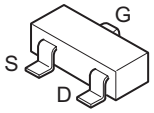


DTA114EKA-T146
DTA143EK
DTA144EKA-T146
DTC114EK

DTC114TKA-T146
DTC143EKA-T146
DTC144EKA-T146
2SA1162-G
2SA1226
2SC1623-L5L6
2SC4081-R
2SD601A-Q
2SD601A-Q-TX
2SD601A-S



2SA2005
2SC5511



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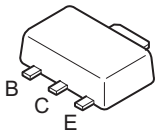
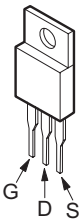
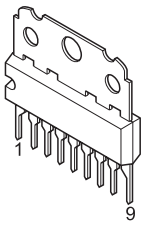


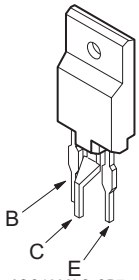
2SK2036(TE85L)



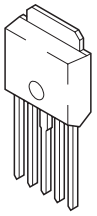
IRF614
IRFI644
IMB12-140-F153A



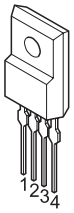
TDA6111Q/N4



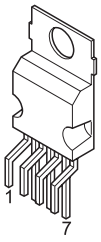
2SC4632LS-CB7



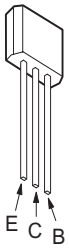
PQ07VZ012P



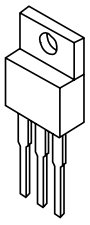
PQ09RD21
PQ05RF21
PQ09RF21
PQ12RF21
PQ30RF21



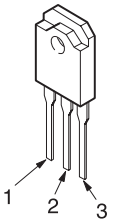
STV9379



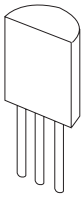
2SA1776TV2Q



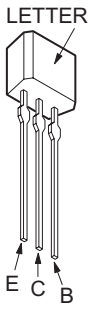
UPC2412AHF



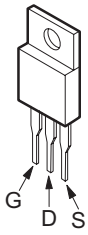
2SC3997S-SONY



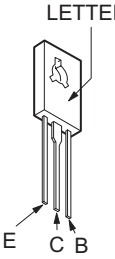
UPC1093J



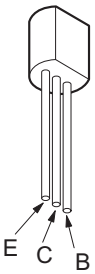
2SA1175-HFE
2SC3311A-QRSTA



IRFI9630GS



2SC2688-LK
2SC3840(3)



2SA1208S-TP

SECTION 6: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

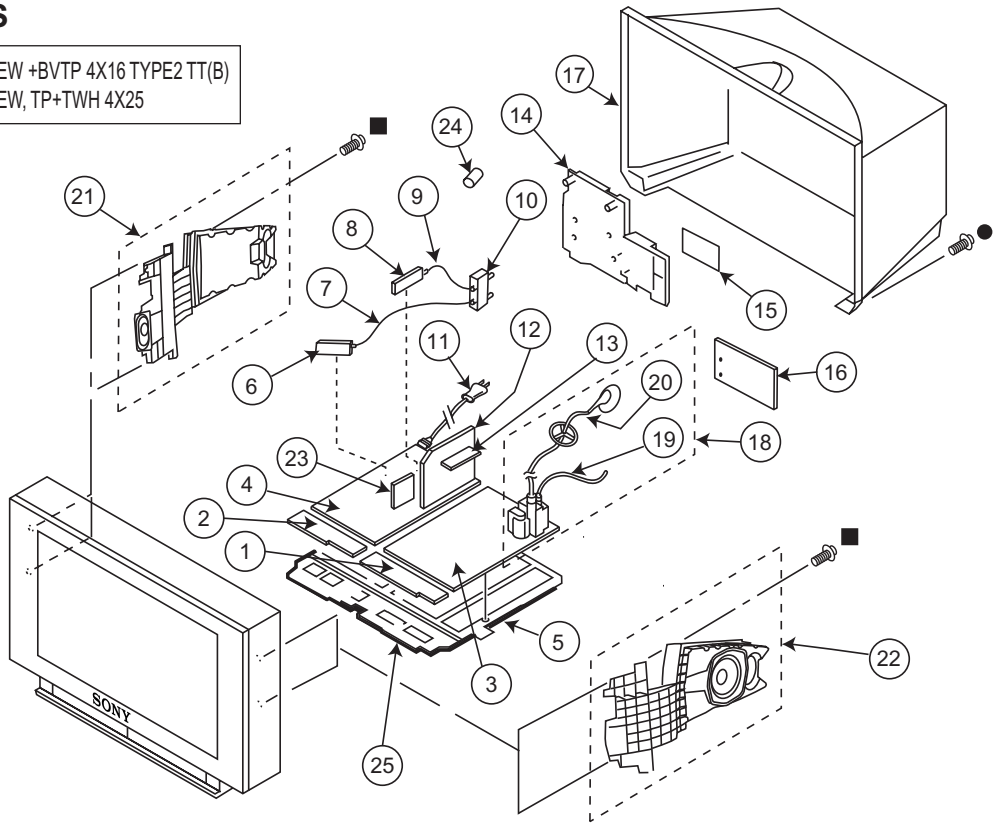
*** Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.**

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies par un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-1. CHASSIS

● 7-685-663-79 SCREW +BVTP 4X16 TYPE2 TT(B)
■ 4-064-929-02 SCREW, TP+TWH 4X25

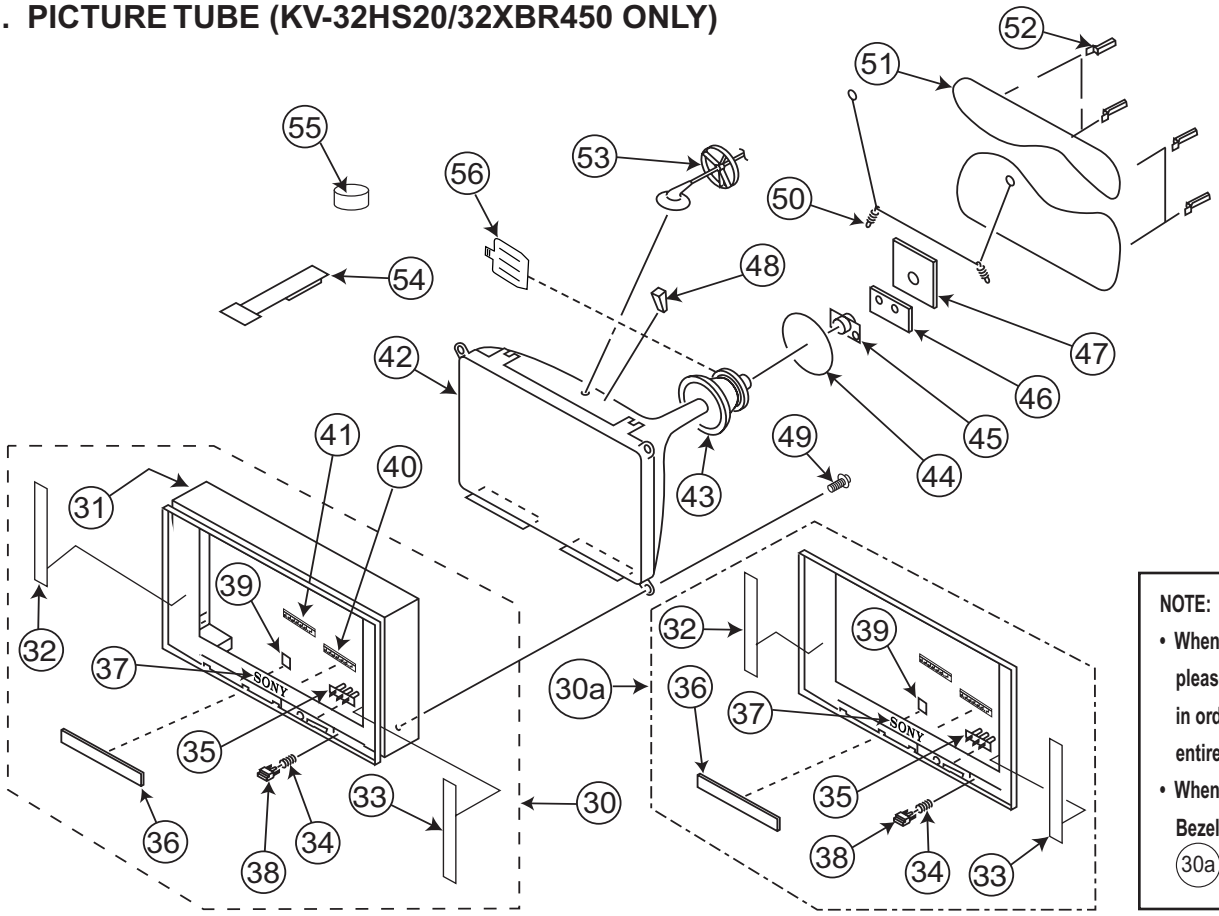


	REF.NO.	PART NO.	DESCRIPTION
*	1	A-1372-970-A	HA BOARD, MOUNTED
*	2	A-1372-904-A	HB (COM) BOARD, MOUNTED
*	3	A-1346-947-A	D BOARD, COMPLETE (KV-32HS20/32XBR450 ONLY) The high voltage leads associated with the FBT on this board are not included and must be ordered separately (see 19-20).
*	3	A-1346-948-A	D BOARD, COMPLETE (ALL EXCEPT KV-32HS20/32XBR450) The high voltage leads associated with the FBT on this board are not included and must be ordered separately (see 19-20).
*	4	A-1299-481-A	A BOARD, COMPLETE
*	5	4-075-828-01	BRACKET, MAIN
⚠	6	8-598-501-30	TUNER (BTF-FA402)
*	7	1-555-400-00	CABLE, PIN
⚠	8	8-598-542-20	TUNER (BTF-WA412)
*	9	1-557-009-31	CABLE, P-P
	10	1-771-787-11	SWITCH, RF ANTENNA
⚠	11	1-790-316-21	CORD, AC POWER(WITH CONNECTOR)
*	12	A-1136-200-A	B BOARD, COMPLETE
*	13	A-1136-117-A	BC BOARD, COMPLETE
*⚠	14	4-075-829-01	BRACKET, U
	15	4-077-820-01	LABEL, TERMINAL
*	16	A-1373-817-A	U (COM) BOARD, MOUNTED
	17	4-075-833-01	COVER, REAR (ALL EXCEPT KV-32HS20/32XBR450)
	17	4-075-821-01	COVER, REAR (KV-32HS20/32XBR450 ONLY)
⚠	18	1-453-346-11	FBT ASSY NX-6000//J1J4 19-20
⚠	19	1-900-805-19	WIRE ASSY, FOCUS HV
⚠	20	1-251-715-22	CAP ASSY, HIGH-VOLTAGE
	21	1-529-812-31	SPEAKER BOX LEFT (ALL EXCEPT KV-32HS20/32XBR450)
	21	1-529-811-31	SPEAKER BOX LEFT (KV-32HS20/32XBR450 ONLY)
	22	1-529-812-41	SPEAKER BOX RIGHT (ALL EXCEPT KV-32HS20/32XBR450)
	22	1-529-811-41	SPEAKER BOX RIGHT (KV-32HS20/32XBR450 ONLY)
*	23	A-1391-048-A	S BOARD, MOUNTED
	24	1-500-386-11	FILTER, CLAMP (FERRITE CORE)
*	25	4-075-830-02	BRACKET, H

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies par un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-2. PICTURE TUBE (KV-32HS20/32XBR450 ONLY)



NOTE:
- When replacing the CRT, please order Item (30) in order to replace the entire Beznet.
- When replacing only the Bezel, please order Item (30a) only.

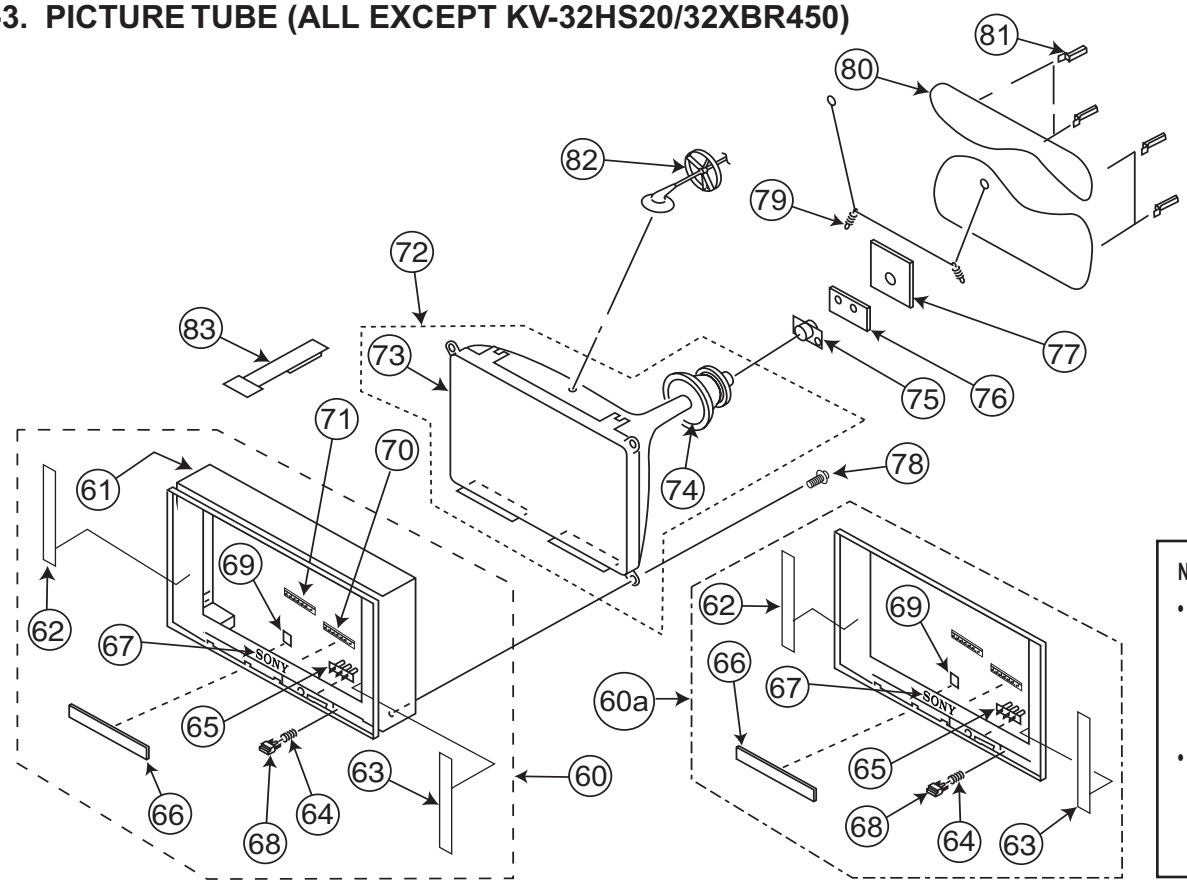
	REF.NO.	PART NO.	DESCRIPTION	[Assembly Includes]
	30	A-1017-303-A	BEZNET COMPLETE ASSY (KV-32XBR450 ONLY)	31-39
	30	X-4038-873-1	BEZNET ASSY (KV-32HS20 ONLY)	31-39
	30a	A-1501-900-A	BEZEL COMPLETE ASSY (KV-32XBR450 ONLY)	32-39
	30a	X-4038-979-1	BEZEL ASSY (KV-32HS20 ONLY)	34-39
*	31	4-075-820-01	CABINET	
	32		GRILL, SPEAKER (L) (KV-32XBR450 ONLY)	
	33		GRILL, SPEAKER (R) (KV-32XBR450 ONLY)	
	34	4-042-593-11	SPRING, COMPRESSION	
	35	4-075-823-01	GUIDE, LED	
	36	4-075-822-21	DOOR, PAINTED (KV-32XBR450 ONLY)	
	36	4-075-822-31	DOOR, PAINTED (KV-32HS20 ONLY)	
	37	3-704-179-01	EMBLEM (NO.9), SONY (KV-32XBR450 ONLY)	
	37	3-704-179-02	EMBLEM (NO.9), SONY (KV-32HS20 ONLY)	

	REF.NO.	PART NO.	DESCRIPTION
	38	4-075-824-21	BUTTON, POWER (KV-32XBR450 ONLY)
	38	4-075-824-31	BUTTON, POWER (KV-32HS20 ONLY)
	39	4-076-673-02	DAMPER, DOOR
	40	4-075-825-01	BUTTON, MULTI
	41	4-075-826-01	BUTTON, MENU
⚠	42	8-735-047-05	CRT 34RSN
⚠	43	8-451-512-21	DY Y34RSC-Y
	44	1-451-498-21	COIL, NA ROTATION
⚠	45	8-453-009-21	NA325-M2
*	46	A-1372-833-A	W BOARD, MOUNTED
*	47	A-1332-075-A	C BOARD, MOUNTED
	48	4-053-005-01	SPACER, DY
	49	4-046-765-12	SCREW, TAPPING 7+CROWN WASHER
	50	4-036-329-01	SPRING (B), TENSION
⚠	51	1-416-827-21	COIL, DEGAUSSING
	52	4-065-895-11	HOLDER, DGC
	53	3-704-372-71	HOLDER, HV CABLE
	54	4-062-047-02	PIECE A(110), CONV CORRECT
	55	1-452-885-11	MAGNET, LANDING
	56	4-057-714-01	PIECE TLH CONVERGENCE

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies par un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-3. PICTURE TUBE (ALL EXCEPT KV-32HS20/32XBR450)



NOTE:
- **When replacing the CRT, please order Item (60) in order to replace the entire Beznet.**
- **When replacing only the Bezel, please order Item (60a) only.**

REF.NO.	PART NO.	DESCRIPTION	[Assembly Includes]
60	A-1017-301-A	BEZNET COMPLETE ASSY (KV-36XBR450/36XBR450H ONLY)	61-69
60	X-4038-872-1	BEZNET ASSY (KV-36HS20/36HS20H ONLY)	61-69
60a	A-1501-902-A	BEZEL COMPLETE ASSY (KV-36XBR450/36XBR450H ONLY)	62-69
60a	X-4038-981-1	BEZEL ASSY (KV-36HS20/36HS20H ONLY)	64-69
61	4-075-832-01	CABINET	
62		GRILL, SPEAKER (L) (KV-36XBR450/36XBR450H ONLY)	
63		GRILL, SPEAKER (R) (KV-36XBR450/36XBR450H ONLY)	
64	4-042-593-11	SPRING, COMPRESSION	
65	4-075-823-01	GUIDE, LED	
66	4-075-822-21	DOOR, PAINTED (KV-36XBR450/36XBR450H ONLY)	
66	4-075-822-31	DOOR, PAINTED (KV-36HS20/36HS20H ONLY)	
67	3-704-179-81	EMBLEM (NO.9), SONY (KV-36XBR450/36XBR450H ONLY)	
67	3-704-179-02	EMBLEM (NO.9), SONY (KV-36HS20/36HS20H ONLY)	
68	4-075-824-21	BUTTON, POWER (KV-36XBR450/36XBR450H ONLY)	
68	4-075-824-31	BUTTON, POWER (KV-36HS20/36HS20H ONLY)	
69	4-076-673-02	DAMPER, DOOR	
70	4-075-825-01	BUTTON, MULTI	
71	4-075-826-01	BUTTON, MENU	
⚠ 72	8-735-048-62	ITC 38RSN-C1 (KV-36HS20/36XBR450 ONLY)	73-74
⚠ 72	8-735-081-62	ITC 38RSN-C1M (KV-36HS20H/36XBR450H ONLY)	73-74
⚠ 73	8-735-048-05	CRT 38RSN (KV-36HS20/36XBR450 ONLY)	
⚠ 73	8-735-081-05	CRT 38RSN (KV-36HS20H/36XBR450H ONLY)	
⚠ 74	8-451-516-11	DY Y38RSC-X	
⚠ 75	8-453-009-21	NA325-M2	
* 76	A-1372-833-A	W BOARD, MOUNTED	
* 77	A-1332-075-A	C BOARD, MOUNTED	
78	4-046-765-12	SCREW, TAPPING 7+CROWN WASHER	
79	4-036-329-01	SPRING (B), TENSION	
⚠ 80	1-416-828-41	COIL, DEGAUSS	
81	4-065-895-11	HOLDER, DGC	
82	3-704-372-71	HOLDER, HV CABLE	
83	4-062-047-02	PIECE A(110), CONV CORRECT	

SECTION 7: ELECTRICAL PARTS LIST

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components in this manual identified by the following symbol: ⋈ indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation for each set.

Should replacement be required for one of these components, replace only with the value originally used.

*** Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.**

BC

RESISTORS
- **All resistors are in ohms**
- **F : nonflammable**
- **All variable and adjustable resistors have characteristic curve B, unless otherwise noted.**

When ordering parts by reference number, please include the board name.

BC

* **A-1136-117-A BC BOARD, COMPLETE**

CAPACITOR

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C3500	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3501	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C3502	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3504	1-163-102-00	CERAMIC CHIP	24pF	5%	50V
C3505	1-163-102-00	CERAMIC CHIP	24pF	5%	50V
C3506	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3507	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3509	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3510	1-163-131-00	CERAMIC CHIP	390pF	5%	50V
C3511	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3512	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3513	1-216-295-91	SHORT			
C3514	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3515	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3516	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3517	1-126-924-11	ELECT	330µF	20%	6.3V
C3518	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3519	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3520	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3521	1-163-237-11	CERAMIC CHIP	27pF	5%	50V
C3522	1-104-660-91	ELECT	47µF	20%	16V
C3523	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3524	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3525	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3526	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3527	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3528	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3529	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3530	1-104-660-91	ELECT	47µF	20%	16V
C3531	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3532	1-126-964-11	ELECT	10µF	20%	50V
C3533	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C3534	1-126-960-11	ELECT	1µF	20%	50V
C3535	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C3536	1-126-960-11	ELECT	1µF	20%	50V
C3537	1-126-964-11	ELECT	10µF	20%	50V
C3538	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C3539	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C3541	1-163-106-00	CERAMIC CHIP	36pF	5%	50V
C3542	1-126-964-11	ELECT	10µF	20%	50V
C3543	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C3546	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C3547	1-126-934-11	ELECT	220µF	20%	10V
C3548	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3549	1-104-660-91	ELECT	47µF	20%	16V
C3550	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3551	1-104-660-91	ELECT	47µF	20%	16V
C3552	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3553	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3554	1-104-660-91	ELECT	47µF	20%	16V
C3555	1-126-934-11	ELECT	220µF	20%	10V
C3556	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3557	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3558	1-104-660-91	ELECT	47µF	20%	16V
C3559	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3560	1-104-660-91	ELECT	47µF	20%	16V
C3561	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3562	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3563	1-104-660-91	ELECT	47µF	20%	16V
C3564	1-104-660-91	ELECT	47µF	20%	16V
C3565	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C3566	1-163-031-91	CERAMIC CHIP	0.01µF		50V

	REF.NO.	PART NO.	DESCRIPTION	VALUES
		CONNECTOR		
*	CN3500	1-691-632-21	CONNECTOR, BOARD TO BOARD 15P	
		FERRITE BEAD		
	FB3500	1-414-234-22	FERRITE	0µH
	FB3501	1-414-234-22	FERRITE	0µH
	FB3502	1-414-234-22	FERRITE	0µH
	FB3503	1-414-234-22	FERRITE	0µH
	FB3504	1-414-234-22	FERRITE	0µH
	FB3505	1-414-234-22	FERRITE	0µH
	FB3506	1-414-234-22	FERRITE	0µH
	FB3507	1-414-234-22	FERRITE	0µH
	FB3508	1-414-234-22	FERRITE	0µH
	FB3509	1-414-234-22	FERRITE	0µH
		FILTER		
	FL3500	1-239-848-21	FILTER, LOW PASS	
	FL3501	1-239-848-21	FILTER, LOW PASS	
	FL3502	1-239-848-21	FILTER, LOW PASS	
	FL3503	1-239-848-21	FILTER, LOW PASS	
	FL3504	1-233-512-21	FERRITE	37µH
	FL3505	1-233-512-21	FERRITE	37µH
	FL3506	1-233-512-21	FERRITE	37µH
		IC		
	IC3500	8-759-568-27	IC UPD424210LE-60-E2	
	IC3501	8-759-594-44	IC UPD64082GF-3BA	
	IC3502	8-759-583-47	IC UPC2933T-E1	
		COIL		
	L3500	1-414-265-21	INDUCTOR	4.7µH
	L3501	1-412-058-11	INDUCTOR	10µH
	L3502	1-412-058-11	INDUCTOR	10µH
	L3503	1-412-058-11	INDUCTOR	10µH
	L3504	1-412-058-11	INDUCTOR	10µH
	L3505	1-412-058-11	INDUCTOR	10µH
		TRANSISTOR		
	Q3500	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q3501	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3502	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q3503	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3504	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q3505	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3506	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3508	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3509	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q3510	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q3511	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3512	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3513	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3514	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q3515	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3516	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q3517	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
		RESISTOR		
	R3503	1-216-017-91	RES-CHIP	47 5% 1/10W
	R3504	1-216-295-91	SHORT	
	R3505	1-216-295-91	SHORT	
	R3506	1-216-295-91	SHORT	
	R3507	1-216-295-91	SHORT	
	R3508	1-216-295-91	SHORT	
	R3509	1-216-049-11	RES-CHIP	1K 5% 1/10W
	R3510	1-216-041-00	RES-CHIP	470 5% 1/10W
	R3511	1-216-041-00	RES-CHIP	470 5% 1/10W
	R3512	1-216-295-91	SHORT	
	R3514	1-216-025-11	RES-CHIP	100 5% 1/10W
	R3515	1-216-055-00	RES-CHIP	1.8K 5% 1/10W
	R3516	1-216-055-00	RES-CHIP	1.8K 5% 1/10W
	R3517	1-216-025-11	RES-CHIP	100 5% 1/10W
	R3518	1-216-025-11	RES-CHIP	100 5% 1/10W
	R3519	1-216-295-91	SHORT	
	R3520	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
	R3521	1-216-041-00	RES-CHIP	470 5% 1/10W
	R3522	1-216-041-00	RES-CHIP	470 5% 1/10W
	R3523	1-216-049-11	RES-CHIP	1K 5% 1/10W
	R3524	1-216-089-91	RES-CHIP	47K 5% 1/10W
	R3525	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
	R3526	1-216-105-91	RES-CHIP	220K 5% 1/10W
	R3527	1-216-033-00	RES-CHIP	220 5% 1/10W
	R3528	1-208-776-11	METAL CHIP	560 0.50% 1/10W
	R3529	1-208-772-11	METAL CHIP	390 0.50% 1/10W
	R3530	1-216-067-00	RES-CHIP	5.6K 5% 1/10W
	R3531	1-216-049-11	RES-CHIP	1K 5% 1/10W
	R3532	1-216-025-11	RES-CHIP	100 5% 1/10W
	R3534	1-216-049-11	RES-CHIP	1K 5% 1/10W

BC B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3535	1-216-025-11	RES-CHIP	100	5%	1/10W
R3538	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3539	1-216-043-91	RES-CHIP	560	5%	1/10W
R3540	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3541	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R3542	1-216-043-91	RES-CHIP	560	5%	1/10W
R3543	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3544	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3545	1-216-043-91	RES-CHIP	560	5%	1/10W
R3547	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R3548	1-216-295-91	SHORT			
R3549	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3550	1-208-780-11	METAL CHIP	820	0.50%	1/10W
R3551	1-216-043-91	RES-CHIP	560	5%	1/10W
R3552	1-216-031-00	RES-CHIP	180	5%	1/10W
R3553	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3554	1-216-047-91	RES-CHIP	820	5%	1/10W
R3555	1-216-075-00	RES-CHIP	12K	5%	1/10W
R3556	1-216-085-91	RES-CHIP	33K	5%	1/10W
R3557	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3558	1-216-017-91	RES-CHIP	47	5%	1/10W
R3559	1-216-295-91	SHORT			
R3560	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3561	1-216-043-91	RES-CHIP	560	5%	1/10W
R3563	1-216-295-91	SHORT			
R3564	1-216-295-91	SHORT			
R3565	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R3566	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3567	1-216-043-91	RES-CHIP	560	5%	1/10W
R3568	1-216-047-91	RES-CHIP	820	5%	1/10W
R3569	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3570	1-216-085-91	RES-CHIP	33K	5%	1/10W
R3571	1-216-075-00	RES-CHIP	12K	5%	1/10W
R3572	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3573	1-216-017-91	RES-CHIP	47	5%	1/10W
R3588	1-216-043-91	RES-CHIP	560	5%	1/10W
R3589	1-216-105-91	RES-CHIP	220K	5%	1/10W
	CRYSTAL				
X3500	1-767-606-11	VIBRATOR, CRYSTAL			

B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
*	**A-1136-200-A**	**B BOARD, COMPLETE**			
	CAPACITOR				
C3001	1-128-453-21	ELECT CHIP	47µF	20%	6.3V
C3002	1-128-453-21	ELECT CHIP	47µF	20%	6.3V
C3003	1-128-453-21	ELECT CHIP	47µF	20%	6.3V
C3004	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C3005	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3006	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3007	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3008	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3009	1-164-227-11	CERAMIC CHIP	0.022µF	10%	25V
C3010	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3011	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3012	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3013	1-104-601-11	ELECT CHIP	10µF	20%	10V
C3014	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3015	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3016	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3017	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3018	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3019	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3020	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3021	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3022	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3023	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3024	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3025	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3026	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3027	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3028	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3030	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3031	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3032	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3033	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C3034	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3035	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3036	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3037	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3039	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3040	1-124-779-00	ELECT CHIP	10µF	20%	16V

B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C3041	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C3043	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3044	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3045	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3046	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3047	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3048	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3049	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3050	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3051	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3054	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3055	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3056	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3057	1-126-603-11	ELECT CHIP	4.7µF	20%	35V
C3059	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C3060	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3061	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3062	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3063	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3064	1-117-681-11	ELECT CHIP	100µF	20%	16V
C3066	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3067	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3068	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3069	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3070	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3071	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C3072	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3073	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3074	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3075	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C3076	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3078	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3079	1-125-838-11	CERAMIC CHIP	2.2µF	10%	6.3V
C3080	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3081	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3082	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3083	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C3085	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3086	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3087	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3088	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3089	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3090	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3091	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3092	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3093	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3094	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3096	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3097	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3098	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3099	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C3113	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3114	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3115	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3116	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3117	1-126-603-11	ELECT CHIP	4.7µF	20%	35V
C3120	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C3127	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3128	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C3129	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3130	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C3131	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3132	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3133	1-125-838-11	CERAMIC CHIP	2.2µF	10%	6.3V
C3134	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3135	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3136	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C3137	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3138	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3139	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3140	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3141	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3142	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3172	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3173	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3204	1-126-193-11	ELECT CHIP	1µF	20%	50V
C3205	1-117-681-11	ELECT CHIP	100µF	20%	16V
C3206	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3208	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3209	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3210	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3211	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3212	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3213	1-117-681-11	ELECT CHIP	100µF	20%	16V
C3215	1-126-401-21	ELECT CHIP	1µF	20%	50V
C3216	1-126-193-11	ELECT CHIP	1µF	20%	50V
C3218	1-126-193-11	ELECT CHIP	1µF	20%	50V
C3219	1-126-193-11	ELECT CHIP	1µF	20%	50V

B

REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
C3220	1-128-993-21	ELECT CHIP	22µF	20%	10V	C3317	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3221	1-117-681-11	ELECT CHIP	100µF	20%	16V	C3318	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3222	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3319	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3223	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3320	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3224	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3321	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3225	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3322	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3226	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3323	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3227	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3324	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3229	1-117-681-11	ELECT CHIP	100µF	20%	16V	C3325	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3235	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3326	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3236	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3327	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3237	1-117-681-11	ELECT CHIP	100µF	20%	16V	C3328	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3239	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3331	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3240	1-164-230-11	CERAMIC CHIP	220pF	5%	50V	C3332	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3241	1-164-361-11	CERAMIC CHIP	0.047µF		25V	C3333	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3242	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	C3335	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3243	1-126-193-11	ELECT CHIP	1µF	20%	50V	C3336	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3245	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	C3338	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3246	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	C3339	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3247	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	C3340	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3248	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	C3341	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3249	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	C3343	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3250	1-216-295-91	SHORT				C3344	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3251	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V	C3345	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3252	1-216-295-91	SHORT				C3346	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3253	1-127-573-11	CERAMIC CHIP	1µF	10%	16V	C3347	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3254	1-127-573-11	CERAMIC CHIP	1µF	10%	16V	C3348	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3255	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	C3349	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3301	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3350	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3302	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3351	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3303	1-126-206-11	ELECT CHIP	100µF	20%	6.3V	C3352	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3304	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3353	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3305	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3354	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3306	1-126-204-11	ELECT CHIP	47µF	20%	16V	C3355	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3307	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3356	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3308	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3357	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3309	1-124-779-00	ELECT CHIP	10µF	20%	16V	C3358	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3310	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V	C3359	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3311	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V	C3360	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3312	1-126-206-11	ELECT CHIP	100µF	20%	6.3V	C3361	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3313	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3362	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C3314	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3363	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3315	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3364	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3316	1-164-156-11	CERAMIC CHIP	0.1µF		25V	C3365	1-164-156-11	CERAMIC CHIP	0.1µF		25V

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C3366	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3367	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3368	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3369	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3370	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3371	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3372	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3374	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3375	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C3376	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3377	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3378	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3379	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3401	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3402	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3403	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3404	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3405	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C3406	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C3407	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C3408	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C3409	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3410	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3411	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3412	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3413	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3414	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3415	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3416	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3417	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3418	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C3419	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3420	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3421	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3422	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3423	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3424	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3425	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C3426	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3428	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C3429	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3430	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3431	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3432	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3433	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3434	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3435	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3436	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C3437	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3438	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3439	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3440	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C3441	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C3442	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3443	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3444	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3445	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3446	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C3447	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3448	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C3449	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3450	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3452	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3453	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3454	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3455	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3456	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3457	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3458	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3460	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C3462	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3463	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3464	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3465	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3466	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3467	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3468	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C3469	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3470	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C3473	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3474	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3475	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3476	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3477	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3478	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3479	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3480	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3481	1-117-681-11	ELECT CHIP	100µF	20%	16V

B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C3482	1-117-681-11	ELECT CHIP	100µF	20%	16V
C3483	1-117-681-11	ELECT CHIP	100µF	20%	16V
C3484	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3485	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3486	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3487	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3488	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3489	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3490	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3491	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3492	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3493	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3494	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3495	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3496	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3604	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3605	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3606	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3607	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3608	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C3609	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C3610	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3611	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3612	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3613	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3618	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3619	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3623	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C3624	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3625	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C3626	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C3627	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3628	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3629	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3630	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C3635	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3636	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C3637	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3638	1-124-779-00	ELECT CHIP	10µF	20%	16V
C3639	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3640	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C3641	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3642	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3643	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C3644	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C3652	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C3653	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C3654	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C3655	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C3656	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C3657	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C3658	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C3659	1-126-204-11	ELECT CHIP	47µF	20%	16V
C3660	1-126-204-11	ELECT CHIP	47µF	20%	16V

CONNECTOR

* CN3201	1-691-616-21	CONNECTOR, BOARD TO BOARD	15P
CN3202	1-573-299-21	CONNECTOR, BOARD TO BOARD	10P
* CN3203	1-785-303-11	CONNECTOR, DIN (PLUG)	64P
* CN3204	1-564-526-11	PLUG,CONNECTOR	11P
* CN3205	1-785-304-11	CONNECTOR, DIN (RECEPTACLE)	64

DIODE

D3001	8-719-978-33	DIODE UDZSTE-176.8B
D3002	8-719-978-33	DIODE UDZSTE-176.8B
D3003	8-719-978-33	DIODE UDZSTE-176.8B
D3004	8-719-978-33	DIODE UDZSTE-176.8B
D3005	8-719-978-33	DIODE UDZSTE-176.8B
D3006	8-719-978-33	DIODE UDZSTE-176.8B
D3007	8-719-978-33	DIODE UDZSTE-176.8B
D3089	8-719-800-76	DIODE MA153-TX
D3090	8-719-800-76	DIODE MA153-TX
D3201	8-719-977-28	DIODE UDZSTE-1710B
D3202	8-719-977-28	DIODE UDZSTE-1710B
D3204	8-719-977-28	DIODE UDZSTE-1710B
D3205	8-719-977-28	DIODE UDZSTE-1710B
D3206	8-719-977-28	DIODE UDZSTE-1710B
D3209	8-719-914-44	DIODE DAP202K-T-146
D3210	8-719-041-97	DIODE MA113-(TX)
D3211	8-719-404-50	DIODE MA111-TX
D3212	8-719-977-28	DIODE UDZSTE-1710B
D3213	8-719-977-28	DIODE UDZSTE-1710B
D3214	8-719-977-28	DIODE UDZSTE-1710B
D3215	8-719-977-28	DIODE UDZSTE-1710B
D3216	8-719-977-28	DIODE UDZSTE-1710B
D3217	8-719-977-28	DIODE UDZSTE-1710B
D3301	8-719-056-77	DIODE UDZ-TE-17-3.9B
D3401	8-719-914-43	DIODE DAN202K-T-146

B

REF.NO.	PART NO.	DESCRIPTION	VALUES
D3402	8-719-914-44	DIODE DAP202K-T-146	
D3403	8-719-978-33	DIODE UDZSTE-176.8B	
	FERRITE BEAD		
FB3201	1-414-234-22	FERRITE	0µH
FB3202	1-414-234-22	FERRITE	0µH
FB3203	1-216-295-91	SHORT	
FB3204	1-414-234-22	FERRITE	0µH
FB3205	1-414-234-22	FERRITE	0µH
FB3206	1-414-234-22	FERRITE	0µH
FB3401	1-414-235-22	FERRITE	0µH
FB3402	1-414-235-22	FERRITE	0µH
FB3601	1-414-235-22	FERRITE	0µH
	FILTER		
FL3001	1-239-848-11	FILTER, LOW PASS	
FL3002	1-239-848-11	FILTER, LOW PASS	
FL3003	1-781-923-11	FILTER, LOW PASS	(SMD)
FL3004	1-239-848-11	FILTER, LOW PASS	
FL3401	1-781-923-21	FILTER, LOW PASS	(SMD)
	IC		
IC3001	8-752-093-84	IC CXA2151Q	
IC3002	8-759-595-97	IC SN74LV4053ANSR	
IC3003	8-752-394-69	IC CXD2073Q-T4	
IC3004	8-759-595-97	IC SN74LV4053ANSR	
IC3048	8-752-089-50	IC CXA2103Q	
IC3089	6-700-149-01	IC M24C04-MN6T(A)	
IC3090	6-800-050-01	IC MB94918RpF-G-137-BND	
IC3091	8-759-349-11	IC PST9145NL	
IC3110	8-752-089-50	IC CXA2103Q	
IC3201	8-752-080-04	IC CXA2069Q	
IC3202	8-759-351-01	IC TEA6422DT	
IC3203	8-759-331-71	IC NJM4558E(TE2)	
IC3301	6-700-174-01	IC IS42S16100-7T	
IC3302	8-749-015-18	IC PQ07VZ012P	
IC3303	8-752-409-78	IC CXD2095AQ	
IC3304	8-759-447-90	IC TLC5733AIPM	
IC3305	8-759-669-75	IC TLC2932IPWR	
IC3306	8-759-669-78	IC TLC2933IPWR-12	
IC3401	8-749-015-18	IC PQ07VZ012P	
IC3402	8-759-677-37	IC MT48LC2M32B2TG-6	
IC3402	8-759-675-89	IC TC59S6432CFT-80(YB)	
IC3403	8-759-460-29	IC PST9120NL	

REF.NO.	PART NO.	DESCRIPTION	VALUES
IC3404	8-759-669-75	IC TLC2932IPWR	
IC3405	8-759-485-79	IC TC7SET08FU(TE85R)	
IC3406	8-759-485-79	IC TC7SET08FU(TE85R)	
IC3407	8-759-485-79	IC TC7SET08FU(TE85R)	
IC3408	8-759-672-57	IC CXD9509AQ	
IC3409	8-749-015-18	IC PQ07VZ012P	
IC3410	8-752-367-59	IC CXD2309Q	
IC3411	8-759-082-57	IC TC7W04FU(TE12R)	
IC3412	8-759-082-58	IC TC7W08FU(TE12R)	
IC3413	8-759-595-97	IC SN74LV4053ANSR	
IC3414	8-759-548-56	IC M52055FP	
IC3601	8-752-916-40	IC CXP85840A-039Q	
IC3602	8-752-916-40	IC CXP85840A-039Q	
IC3603	8-752-395-13	IC CXD2085M-T4	
IC3604	8-759-700-07	IC NJM2903M-TE2	
	COIL		
L3001	1-216-295-91	SHORT	
L3002	1-469-555-21	INDUCTOR	10µH
L3003	1-469-555-21	INDUCTOR	10µH
L3004	1-469-555-21	INDUCTOR	10µH
L3005	1-469-555-21	INDUCTOR	10µH
L3049	1-469-555-21	INDUCTOR	10µH
L3050	1-469-555-21	INDUCTOR	10µH
L3051	1-469-555-21	INDUCTOR	10µH
L3089	1-414-233-22	FERRITE	0µH
L3112	1-469-555-21	INDUCTOR	10µH
L3113	1-469-555-21	INDUCTOR	10µH
L3301	1-412-058-11	INDUCTOR	10µH
L3302	1-469-555-21	INDUCTOR	10µH
L3303	1-412-052-21	INDUCTOR	1µH
L3304	1-469-555-21	INDUCTOR	10µH
L3305	1-469-555-21	INDUCTOR	10µH
L3306	1-469-561-21	INDUCTOR	100µH
L3307	1-469-555-21	INDUCTOR	10µH
L3308	1-469-561-21	INDUCTOR	100µH
L3309	1-469-561-21	INDUCTOR	100µH
L3310	1-469-561-21	INDUCTOR	100µH
L3311	1-469-561-21	INDUCTOR	100µH
L3312	1-469-555-21	INDUCTOR	10µH
L3401	1-412-052-21	INDUCTOR	1µH
L3402	1-412-052-21	INDUCTOR	1µH
L3403	1-469-561-21	INDUCTOR	100µH
L3404	1-469-561-21	INDUCTOR	100µH

B

REF.NO.	PART NO.	DESCRIPTION	VALUES
L3405	1-469-555-21	INDUCTOR	10µH
L3406	1-469-555-21	INDUCTOR	10µH
L3407	1-469-555-21	INDUCTOR	10µH
L3409	1-469-555-21	INDUCTOR	10µH
L3410	1-412-052-21	INDUCTOR	1µH
L3411	1-412-058-11	INDUCTOR	10µH
L3412	1-469-555-21	INDUCTOR	10µH
L3413	1-469-555-21	INDUCTOR	10µH
L3414	1-469-555-21	INDUCTOR	10µH
L3416	1-469-555-21	INDUCTOR	10µH
L3601	1-469-555-21	INDUCTOR	10µH
L3602	1-412-951-11	INDUCTOR	10µH
L3603	1-469-555-21	INDUCTOR	10µH
L3604	1-412-951-11	INDUCTOR	10µH
L3605	1-469-555-21	INDUCTOR	10µH
L3606	1-469-555-21	INDUCTOR	10µH
L3607	1-469-555-21	INDUCTOR	10µH
L3608	1-414-754-11	INDUCTOR	10µH
L3609	1-414-754-11	INDUCTOR	10µH
	TRANSISTOR		
Q3001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3002	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3003	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3006	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3007	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3008	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3009	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3010	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3011	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3014	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3015	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3016	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3017	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3018	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3021	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3022	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3023	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3025	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3026	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3027	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3035	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3036	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3037	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3038	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3039	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3040	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3049	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3051	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3053	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3054	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3056	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3058	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3089	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3090	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3091	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q3101	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3102	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3103	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3104	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3110	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3111	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3112	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3201	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3202	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3203	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3204	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3205	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3206	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3207	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3208	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3209	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3210	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3211	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q3213	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3214	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3215	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3216	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3217	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3301	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3302	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3303	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3304	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3305	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q3401	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q3402	8-729-028-28	TRANSISTOR 2SK2036(TE85L)	
Q3403	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	

B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
Q3404	8-729-028-28	TRANSISTOR 2SK2036(TE85L)			
Q3405	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3406	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3407	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3408	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3409	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3410	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3411	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3412	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3413	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3414	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3415	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q3603	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3604	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3605	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3606	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3609	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3610	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3611	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3612	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3613	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3617	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3618	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3619	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q3620	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
	RESISTOR				
R3001	1-216-805-11	RES-CHIP	47	5%	1/16W
R3002	1-216-805-11	RES-CHIP	47	5%	1/16W
R3003	1-216-842-11	RES-CHIP	56K	5%	1/16W
R3004	1-216-818-11	RES-CHIP	560	5%	1/16W
R3005	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3006	1-216-817-11	RES-CHIP	470	5%	1/16W
R3007	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R3009	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R3010	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R3011	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3012	1-216-864-11	SHORT			
R3013	1-216-813-11	RES-CHIP	220	5%	1/16W
R3014	1-218-676-11	METAL CHIP	220	0.50%	1/16W
R3015	1-216-864-11	SHORT			
R3017	1-216-809-11	RES-CHIP	100	5%	1/16W
R3018	1-216-817-11	RES-CHIP	470	5%	1/16W
R3019	1-218-686-11	METAL CHIP	560	0.50%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3020	1-216-809-11	RES-CHIP	100	5%	1/16W
R3021	1-216-809-11	RES-CHIP	100	5%	1/16W
R3022	1-216-809-11	RES-CHIP	100	5%	1/16W
R3023	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3024	1-216-809-11	RES-CHIP	100	5%	1/16W
R3025	1-216-809-11	RES-CHIP	100	5%	1/16W
R3026	1-216-035-00	RES-CHIP	270	5%	1/10W
R3027	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R3028	1-218-688-11	METAL CHIP	680	0.50%	1/16W
R3029	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R3030	1-216-864-11	SHORT			
R3035	1-216-809-11	RES-CHIP	100	5%	1/16W
R3036	1-216-809-11	RES-CHIP	100	5%	1/16W
R3037	1-216-809-11	RES-CHIP	100	5%	1/16W
R3038	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R3039	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R3040	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R3042	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3043	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3044	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3045	1-216-817-11	RES-CHIP	470	5%	1/16W
R3046	1-216-817-11	RES-CHIP	470	5%	1/16W
R3047	1-216-809-11	RES-CHIP	100	5%	1/16W
R3048	1-216-809-11	RES-CHIP	100	5%	1/16W
R3049	1-216-809-11	RES-CHIP	100	5%	1/16W
R3050	1-216-809-11	RES-CHIP	100	5%	1/16W
R3051	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3052	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3053	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3056	1-216-817-11	RES-CHIP	470	5%	1/16W
R3057	1-216-817-11	RES-CHIP	470	5%	1/16W
R3058	1-216-835-11	RES-CHIP	15K	5%	1/16W
R3059	1-216-817-11	RES-CHIP	470	5%	1/16W
R3060	1-216-809-11	RES-CHIP	100	5%	1/16W
R3061	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R3062	1-218-697-11	METAL CHIP	1.6K	0.50%	1/16W
R3063	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R3064	1-218-696-11	METAL CHIP	1.5K	0.50%	1/16W
R3066	1-216-809-11	RES-CHIP	100	5%	1/16W
R3067	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3068	1-216-809-11	RES-CHIP	100	5%	1/16W
R3071	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3072	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3073	1-216-805-11	RES-CHIP	47	5%	1/16W

B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3074	1-216-805-11	RES-CHIP	47	5%	1/16W
R3075	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3076	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3077	1-216-809-11	RES-CHIP	100	5%	1/16W
R3078	1-216-832-11	RES-CHIP	8.2K	5%	1/16W
R3079	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3080	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3081	1-216-809-11	RES-CHIP	100	5%	1/16W
R3082	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3083	1-216-864-11	SHORT			
R3084	1-216-864-11	SHORT			
R3085	1-216-864-11	SHORT			
R3086	1-216-864-11	SHORT			
R3087	1-216-864-11	SHORT			
R3088	1-216-864-11	SHORT			
R3089	1-216-864-11	SHORT			
R3090	1-216-861-11	RES-CHIP	2.2M	5%	1/16W
R3091	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3092	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3093	1-216-809-11	RES-CHIP	100	5%	1/16W
R3094	1-216-809-11	RES-CHIP	100	5%	1/16W
R3095	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3096	1-216-817-11	RES-CHIP	470	5%	1/16W
R3097	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3098	1-216-805-11	RES-CHIP	47	5%	1/16W
R3099	1-216-805-11	RES-CHIP	47	5%	1/16W
R3100	1-216-809-11	RES-CHIP	100	5%	1/16W
R3101	1-216-809-11	RES-CHIP	100	5%	1/16W
R3102	1-216-809-11	RES-CHIP	100	5%	1/16W
R3103	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3104	1-216-809-11	RES-CHIP	100	5%	1/16W
R3105	1-216-809-11	RES-CHIP	100	5%	1/16W
R3106	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3107	1-216-864-11	SHORT			
R3108	1-216-817-11	RES-CHIP	470	5%	1/16W
R3121	1-216-809-11	RES-CHIP	100	5%	1/16W
R3122	1-216-809-11	RES-CHIP	100	5%	1/16W
R3123	1-218-696-11	METAL CHIP	1.5K	0.50%	1/16W
R3124	1-218-696-11	METAL CHIP	1.5K	0.50%	1/16W
R3125	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R3126	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R3127	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R3128	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R3129	1-216-835-11	RES-CHIP	15K	5%	1/16W
R3130	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3131	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3132	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3133	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3134	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3135	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3136	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3137	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3138	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3139	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3140	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3141	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3142	1-216-805-11	RES-CHIP	47	5%	1/16W
R3143	1-216-805-11	RES-CHIP	47	5%	1/16W
R3144	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3145	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3146	1-216-832-11	RES-CHIP	8.2K	5%	1/16W
R3147	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3151	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3152	1-216-818-11	RES-CHIP	560	5%	1/16W
R3154	1-216-832-11	RES-CHIP	8.2K	5%	1/16W
R3155	1-216-841-11	RES-CHIP	47K	5%	1/16W
R3156	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3157	1-216-817-11	RES-CHIP	470	5%	1/16W
R3158	1-216-817-11	RES-CHIP	470	5%	1/16W
R3159	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3160	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3161	1-216-809-11	RES-CHIP	100	5%	1/16W
R3162	1-216-815-11	RES-CHIP	330	5%	1/16W
R3163	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R3164	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R3165	1-216-861-11	RES-CHIP	2.2M	5%	1/16W
R3166	1-216-861-11	RES-CHIP	2.2M	5%	1/16W
R3180	1-218-673-11	METAL CHIP	160	0.50%	1/16W
R3181	1-218-673-11	METAL CHIP	160	0.50%	1/16W
R3182	1-218-673-11	METAL CHIP	160	0.50%	1/16W
R3183	1-216-809-11	RES-CHIP	100	5%	1/16W
R3184	1-216-809-11	RES-CHIP	100	5%	1/16W
R3185	1-216-809-11	RES-CHIP	100	5%	1/16W
R3186	1-218-674-11	METAL CHIP	180	0.50%	1/16W
R3187	1-218-674-11	METAL CHIP	180	0.50%	1/16W
R3188	1-218-674-11	METAL CHIP	180	0.50%	1/16W
R3190	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3191	1-218-694-11	METAL CHIP	1.2K	0.50%	1/16W

B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3192	1-216-814-11	RES-CHIP	270	5%	1/16W
R3193	1-218-698-11	METAL CHIP	1.8K	0.50%	1/16W
R3194	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3195	1-216-816-11	RES-CHIP	390	5%	1/16W
R3196	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3197	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3198	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3201	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3202	1-216-809-11	RES-CHIP	100	5%	1/16W
R3203	1-216-809-11	RES-CHIP	100	5%	1/16W
R3204	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3205	1-216-809-11	RES-CHIP	100	5%	1/16W
R3207	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3208	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3209	1-216-809-11	RES-CHIP	100	5%	1/16W
R3210	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3211	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3212	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3213	1-216-809-11	RES-CHIP	100	5%	1/16W
R3215	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3216	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3217	1-216-809-11	RES-CHIP	100	5%	1/16W
R3218	1-216-809-11	RES-CHIP	100	5%	1/16W
R3219	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3220	1-216-809-11	RES-CHIP	100	5%	1/16W
R3221	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3222	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3223	1-216-809-11	RES-CHIP	100	5%	1/16W
R3224	1-216-815-11	RES-CHIP	330	5%	1/16W
R3226	1-216-809-11	RES-CHIP	100	5%	1/16W
R3227	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3228	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3229	1-216-809-11	RES-CHIP	100	5%	1/16W
R3230	1-216-809-11	RES-CHIP	100	5%	1/16W
R3231	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3232	1-216-809-11	RES-CHIP	100	5%	1/16W
R3233	1-216-809-11	RES-CHIP	100	5%	1/16W
R3234	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3235	1-216-809-11	RES-CHIP	100	5%	1/16W
R3236	1-216-809-11	RES-CHIP	100	5%	1/16W
R3240	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3241	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3242	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3244	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3246	1-216-809-11	RES-CHIP	100	5%	1/16W
R3247	1-216-809-11	RES-CHIP	100	5%	1/16W
R3248	1-216-809-11	RES-CHIP	100	5%	1/16W
R3249	1-216-809-11	RES-CHIP	100	5%	1/16W
R3250	1-216-809-11	RES-CHIP	100	5%	1/16W
R3254	1-216-809-11	RES-CHIP	100	5%	1/16W
R3255	1-216-809-11	RES-CHIP	100	5%	1/16W
R3256	1-216-809-11	RES-CHIP	100	5%	1/16W
R3257	1-216-809-11	RES-CHIP	100	5%	1/16W
R3258	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3259	1-216-853-11	RES-CHIP	470K	5%	1/16W
R3260	1-216-853-11	RES-CHIP	470K	5%	1/16W
R3261	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3262	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3263	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3264	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3265	1-216-857-11	RES-CHIP	1M	5%	1/16W
R3266	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3267	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3268	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3269	1-216-809-11	RES-CHIP	100	5%	1/16W
R3270	1-249-382-11	CARBON	1.2	5%	1/4W
R3272	1-216-841-11	RES-CHIP	47K	5%	1/16W
R3273	1-216-819-11	RES-CHIP	680	5%	1/16W
R3275	1-216-819-11	RES-CHIP	680	5%	1/16W
R3276	1-216-819-11	RES-CHIP	680	5%	1/16W
R3277	1-216-819-11	RES-CHIP	680	5%	1/16W
R3279	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3280	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3281	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3282	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3284	1-216-864-11	SHORT			
R3285	1-216-817-11	RES-CHIP	470	5%	1/16W
R3286	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R3287	1-216-817-11	RES-CHIP	470	5%	1/16W
R3288	1-218-686-11	METAL CHIP	560	0.50%	1/16W
R3289	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3290	1-216-809-11	RES-CHIP	100	5%	1/16W
R3291	1-216-842-11	RES-CHIP	56K	5%	1/16W
R3292	1-216-857-11	RES-CHIP	1M	5%	1/16W
R3293	1-216-803-11	RES-CHIP	33	5%	1/16W
R3294	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3296	1-216-845-11	RES-CHIP	100K	5%	1/16W
R3297	1-216-841-11	RES-CHIP	47K	5%	1/16W

B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3298	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3299	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3300	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3301	1-216-809-11	RES-CHIP	100	5%	1/16W
R3302	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R3303	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W
R3304	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R3305	1-216-809-11	RES-CHIP	100	5%	1/16W
R3306	1-216-809-11	RES-CHIP	100	5%	1/16W
R3307	1-216-864-11	SHORT			
R3308	1-216-864-11	SHORT			
R3309	1-211-987-11	METAL CHIP	56	0.50%	1/16W
R3310	1-211-987-11	METAL CHIP	56	0.50%	1/16W
R3311	1-211-987-11	METAL CHIP	56	0.50%	1/16W
R3312	1-211-987-11	METAL CHIP	56	0.50%	1/16W
R3313	1-216-835-11	RES-CHIP	15K	5%	1/16W
R3314	1-211-990-11	METAL CHIP	75	0.50%	1/16W
R3315	1-216-835-11	RES-CHIP	15K	5%	1/16W
R3316	1-211-989-11	METAL CHIP	68	0.50%	1/16W
R3317	1-211-989-11	METAL CHIP	68	0.50%	1/16W
R3318	1-211-990-11	METAL CHIP	75	0.50%	1/16W
R3319	1-211-987-11	METAL CHIP	56	0.50%	1/16W
R3320	1-211-987-11	METAL CHIP	56	0.50%	1/16W
R3321	1-211-987-11	METAL CHIP	56	0.50%	1/16W
R3322	1-211-987-11	METAL CHIP	56	0.50%	1/16W
R3323	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3324	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3325	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3326	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3327	1-216-835-11	RES-CHIP	15K	5%	1/16W
R3328	1-216-864-11	SHORT			
R3329	1-216-815-11	RES-CHIP	330	5%	1/16W
R3330	1-216-815-11	RES-CHIP	330	5%	1/16W
R3331	1-216-841-11	RES-CHIP	47K	5%	1/16W
R3332	1-218-272-11	RES-CHIP	5.1K	5%	1/16W
R3333	1-216-864-11	SHORT			
R3334	1-216-809-11	RES-CHIP	100	5%	1/16W
R3335	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3337	1-216-820-11	RES-CHIP	820	5%	1/16W
R3338	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3339	1-216-855-11	RES-CHIP	680K	5%	1/16W
R3340	1-216-855-11	RES-CHIP	680K	5%	1/16W
R3341	1-216-813-11	RES-CHIP	220	5%	1/16W
R3342	1-220-158-11	RES-CHIP	3.6K	5%	1/16W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3343	1-216-809-11	RES-CHIP	100	5%	1/16W
R3344	1-216-853-11	RES-CHIP	470K	5%	1/16W
R3345	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R3346	1-216-809-11	RES-CHIP	100	5%	1/16W
R3347	1-216-815-11	RES-CHIP	330	5%	1/16W
R3348	1-216-864-11	SHORT			
R3349	1-218-687-11	METAL CHIP	620	0.50%	1/16W
R3350	1-216-814-11	RES-CHIP	270	5%	1/16W
R3351	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3352	1-216-853-11	RES-CHIP	470K	5%	1/16W
R3353	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3354	1-216-813-11	RES-CHIP	220	5%	1/16W
R3355	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3356	1-216-864-11	SHORT			
R3357	1-218-676-11	METAL CHIP	220	0.50%	1/16W
R3358	1-218-676-11	METAL CHIP	220	0.50%	1/16W
R3359	1-218-676-11	METAL CHIP	220	0.50%	1/16W
R3360	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3361	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3364	1-216-864-11	SHORT			
R3366	1-216-864-11	SHORT			
R3367	1-216-803-11	RES-CHIP	33	5%	1/16W
R3369	1-216-864-11	SHORT			
R3371	1-216-624-11	METAL CHIP	75	0.50%	1/10W
R3372	1-216-624-11	METAL CHIP	75	0.50%	1/10W
R3373	1-216-624-11	METAL CHIP	75	0.50%	1/10W
R3382	1-216-864-11	SHORT			
R3401	1-218-694-11	METAL CHIP	1.2K	0.50%	1/16W
R3403	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R3404	1-216-864-11	SHORT			
R3405	1-216-864-11	SHORT			
R3410	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3421	1-216-295-91	SHORT			
R3422	1-216-295-91	SHORT			
R3423	1-216-813-11	RES-CHIP	220	5%	1/16W
R3429	1-216-823-11	RES-CHIP	1.5K	5%	1/16W
R3432	1-216-815-11	RES-CHIP	330	5%	1/16W
R3434	1-216-809-11	RES-CHIP	100	5%	1/16W
R3445	1-216-864-11	SHORT			
R3446	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3447	1-216-819-11	RES-CHIP	680	5%	1/16W
R3448	1-216-855-11	RES-CHIP	680K	5%	1/16W
R3452	1-216-295-91	SHORT			
R3454	1-216-825-11	RES-CHIP	2.2K	5%	1/16W

B

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3460	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3461	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3464	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3465	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3467	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3470	1-216-809-11	RES-CHIP	100	5%	1/16W
R3471	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3472	1-216-801-11	RES-CHIP	22	5%	1/16W
R3475	1-216-809-11	RES-CHIP	100	5%	1/16W
R3476	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3477	1-218-701-11	METAL CHIP	2.4K	0.50%	1/16W
R3478	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3483	1-218-701-11	METAL CHIP	2.4K	0.50%	1/16W
R3484	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3485	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3486	1-216-801-11	RES-CHIP	22	5%	1/16W
R3489	1-216-864-11	SHORT			
R3490	1-216-864-11	SHORT			
R3491	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3492	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3493	1-218-701-11	METAL CHIP	2.4K	0.50%	1/16W
R3495	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3496	1-216-801-11	RES-CHIP	22	5%	1/16W
R3497	1-216-829-11	RES-CHIP	4.7K	5%	1/16W
R3498	1-216-818-11	RES-CHIP	560	5%	1/16W
R3499	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3602	1-216-809-11	RES-CHIP	100	5%	1/16W
R3606	1-216-864-11	SHORT			
R3609	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3610	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3611	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3612	1-216-857-11	RES-CHIP	1M	5%	1/16W
R3613	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3614	1-216-813-11	RES-CHIP	220	5%	1/16W
R3615	1-216-809-11	RES-CHIP	100	5%	1/16W
R3616	1-216-805-11	RES-CHIP	47	5%	1/16W
R3617	1-216-805-11	RES-CHIP	47	5%	1/16W
R3618	1-216-817-11	RES-CHIP	470	5%	1/16W
R3619	1-216-809-11	RES-CHIP	100	5%	1/16W
R3620	1-216-813-11	RES-CHIP	220	5%	1/16W
R3621	1-216-813-11	RES-CHIP	220	5%	1/16W
R3622	1-216-813-11	RES-CHIP	220	5%	1/16W
R3623	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3624	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3625	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3626	1-216-815-11	RES-CHIP	330	5%	1/16W
R3627	1-216-815-11	RES-CHIP	330	5%	1/16W
R3628	1-216-815-11	RES-CHIP	330	5%	1/16W
R3630	1-216-809-11	RES-CHIP	100	5%	1/16W
R3639	1-216-864-11	SHORT			
R3640	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3641	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3642	1-216-833-11	RES-CHIP	10K	5%	1/16W
R3644	1-216-857-11	RES-CHIP	1M	5%	1/16W
R3645	1-216-821-11	RES-CHIP	1K	5%	1/16W
R3646	1-216-813-11	RES-CHIP	220	5%	1/16W
R3647	1-216-809-11	RES-CHIP	100	5%	1/16W
R3648	1-216-805-11	RES-CHIP	47	5%	1/16W
R3649	1-216-805-11	RES-CHIP	47	5%	1/16W
R3650	1-216-817-11	RES-CHIP	470	5%	1/16W
R3651	1-216-809-11	RES-CHIP	100	5%	1/16W
R3652	1-216-813-11	RES-CHIP	220	5%	1/16W
R3653	1-216-813-11	RES-CHIP	220	5%	1/16W
R3654	1-216-813-11	RES-CHIP	220	5%	1/16W
R3655	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3656	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3657	1-216-825-11	RES-CHIP	2.2K	5%	1/16W
R3658	1-216-815-11	RES-CHIP	330	5%	1/16W
R3659	1-216-815-11	RES-CHIP	330	5%	1/16W
R3660	1-216-815-11	RES-CHIP	330	5%	1/16W
R3661	1-216-809-11	RES-CHIP	100	5%	1/16W
R3662	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3663	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3664	1-216-841-11	RES-CHIP	47K	5%	1/16W
R3665	1-216-817-11	RES-CHIP	470	5%	1/16W
R3666	1-216-809-11	RES-CHIP	100	5%	1/16W
R3667	1-216-839-11	RES-CHIP	33K	5%	1/16W
R3668	1-216-797-11	RES-CHIP	10	5%	1/16W
R3669	1-216-809-11	RES-CHIP	100	5%	1/16W
R3672	1-216-864-11	SHORT			
R3673	1-216-809-11	RES-CHIP	100	5%	1/16W
R3674	1-216-813-11	RES-CHIP	220	5%	1/16W
R3675	1-216-813-11	RES-CHIP	220	5%	1/16W
R3676	1-216-809-11	RES-CHIP	100	5%	1/16W
R3677	1-216-809-11	RES-CHIP	100	5%	1/16W
R3678	1-216-809-11	RES-CHIP	100	5%	1/16W
R3679	1-216-809-11	RES-CHIP	100	5%	1/16W
R3680	1-216-833-11	RES-CHIP	10K	5%	1/16W

B

REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3681	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3829	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R3682	1-216-837-11	RES-CHIP	22K	5%	1/16W	R3830	1-218-684-11	METAL CHIP	470	0.50%	1/16W
R3683	1-216-837-11	RES-CHIP	22K	5%	1/16W	R3831	1-216-864-11	SHORT			
R3684	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3832	1-216-864-11	SHORT			
R3685	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3833	1-216-864-11	SHORT			
R3686	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3840	1-216-807-11	RES-CHIP	68	5%	1/16W
R3687	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3843	1-218-694-11	METAL CHIP	1.2K	0.50%	1/16W
R3688	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3844	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W
R3689	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3845	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R3690	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3846	1-216-801-11	RES-CHIP	22	5%	1/16W
R3691	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3847	1-216-801-11	RES-CHIP	22	5%	1/16W
R3692	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3848	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3693	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3849	1-218-675-11	METAL CHIP	200	0.50%	1/16W
R3694	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3850	1-218-675-11	METAL CHIP	200	0.50%	1/16W
R3695	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3851	1-216-809-11	RES-CHIP	100	5%	1/16W
R3696	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3852	1-218-675-11	METAL CHIP	200	0.50%	1/16W
R3697	1-216-833-11	RES-CHIP	10K	5%	1/16W	R3854	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3698	1-216-845-11	RES-CHIP	100K	5%	1/16W	R3857	1-216-809-11	RES-CHIP	100	5%	1/16W
R3699	1-216-845-11	RES-CHIP	100K	5%	1/16W	R3858	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R3800	1-216-864-11	SHORT				R3862	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3802	1-208-762-11	METAL CHIP	150	0.50%	1/10W	R3863	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
R3803	1-208-762-11	METAL CHIP	150	0.50%	1/10W	R3864	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
R3804	1-208-762-11	METAL CHIP	150	0.50%	1/10W	R3865	1-216-809-11	RES-CHIP	100	5%	1/16W
R3805	1-208-762-11	METAL CHIP	150	0.50%	1/10W	R3866	1-414-234-22	FERRITE	0µH		
R3806	1-218-662-11	METAL CHIP	56	0.50%	1/16W	R3867	1-414-234-22	FERRITE	0µH		
R3807	1-208-754-11	METAL CHIP	68	0.50%	1/10W	R3868	1-414-234-22	FERRITE	0µH		
R3808	1-208-755-11	METAL CHIP	75	0.50%	1/10W	R3869	1-218-719-11	METAL CHIP	13K	0.50%	1/16W
R3809	1-208-755-11	METAL CHIP	75	0.50%	1/10W	R3870	1-218-719-11	METAL CHIP	13K	0.50%	1/16W
R3810	1-208-758-11	METAL CHIP	100	0.50%	1/10W	R3871	1-218-719-11	METAL CHIP	13K	0.50%	1/16W
R3811	1-216-809-11	RES-CHIP	100	5%	1/16W	R3872	1-211-990-11	METAL CHIP	75	0.50%	1/16W
R3812	1-216-809-11	RES-CHIP	100	5%	1/16W	R3873	1-211-990-11	METAL CHIP	75	0.50%	1/16W
R3813	1-216-809-11	RES-CHIP	100	5%	1/16W	R3874	1-211-990-11	METAL CHIP	75	0.50%	1/16W
R3814	1-211-969-11	METAL CHIP	10	0.50%	1/16W	R3876	1-208-762-11	METAL CHIP	150	0.50%	1/10W
R3815	1-211-973-11	METAL CHIP	15	0.50%	1/16W	R3901	1-216-035-00	RES-CHIP	270	5%	1/10W
R3816	1-211-977-11	METAL CHIP	22	0.50%	1/16W	R3902	1-216-035-00	RES-CHIP	270	5%	1/10W
R3817	1-211-977-11	METAL CHIP	22	0.50%	1/16W	R3903	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3820	1-218-684-11	METAL CHIP	470	0.50%	1/16W	R3904	1-216-837-11	RES-CHIP	22K	5%	1/16W
R3821	1-218-684-11	METAL CHIP	470	0.50%	1/16W	R3905	1-216-809-11	RES-CHIP	100	5%	1/16W
R3822	1-218-684-11	METAL CHIP	470	0.50%	1/16W	R3906	1-216-809-11	RES-CHIP	100	5%	1/16W
R3823	1-216-826-11	RES-CHIP	2.7K	5%	1/16W	R3907	1-216-809-11	RES-CHIP	100	5%	1/16W
R3824	1-216-826-11	RES-CHIP	2.7K	5%	1/16W	R3908	1-216-809-11	RES-CHIP	100	5%	1/16W
R3825	1-216-826-11	RES-CHIP	2.7K	5%	1/16W	R3909	1-216-809-11	RES-CHIP	100	5%	1/16W
R3826	1-216-809-11	RES-CHIP	100	5%	1/16W	R3910	1-216-809-11	RES-CHIP	100	5%	1/16W
R3828	1-218-684-11	METAL CHIP	470	0.50%	1/16W	R3914	1-216-864-11	SHORT			

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3915	1-211-969-11	METAL CHIP	10	0.50%	1/16W
R3916	1-211-969-11	METAL CHIP	10	0.50%	1/16W
R3917	1-211-969-11	METAL CHIP	10	0.50%	1/16W
R3924	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3925	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3926	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3933	1-216-864-11	SHORT			
R3937	1-216-809-11	RES-CHIP	100	5%	1/16W
R3940	1-216-864-11	SHORT			
R3942	1-216-864-11	SHORT			
R3943	1-216-864-11	SHORT			
R3945	1-216-864-11	SHORT			
R3946	1-216-864-11	SHORT			
R3953	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3954	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3955	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3956	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3957	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3958	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3959	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3960	1-208-755-11	METAL CHIP	75	0.50%	1/10W
R3961	1-208-755-11	METAL CHIP	75	0.50%	1/10W

RESISTOR BRIDGE

RB3301	1-234-525-21	RES, CHIP NETWORK	56	
RB3302	1-234-525-21	RES, CHIP NETWORK	56	
RB3303	1-234-525-21	RES, CHIP NETWORK	56	
RB3304	1-234-525-21	RES, CHIP NETWORK	56	
RB3305	1-234-525-21	RES, CHIP NETWORK	56	
RB3306	1-234-525-21	RES, CHIP NETWORK	56	
RB3307	1-234-525-21	RES, CHIP NETWORK	56	
RB3401	1-234-524-21	RES, CHIP NETWORK	33	
RB3402	1-234-524-21	RES, CHIP NETWORK	33	
RB3403	1-234-524-21	RES, CHIP NETWORK	33	
RB3404	1-234-524-21	RES, CHIP NETWORK	33	
RB3405	1-234-524-21	RES, CHIP NETWORK	33	
RB3406	1-234-524-21	RES, CHIP NETWORK	33	
RB3407	1-234-524-21	RES, CHIP NETWORK	33	
RB3408	1-234-524-21	RES, CHIP NETWORK	33	
RB3409	1-234-524-21	RES, CHIP NETWORK	33	
RB3410	1-234-524-21	RES, CHIP NETWORK	33	
RB3411	1-234-524-21	RES, CHIP NETWORK	33	
RB3412	1-234-524-21	RES, CHIP NETWORK	33	
RB3413	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3414	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3415	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3416	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3417	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3418	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3419	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3420	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3421	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3422	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3423	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3424	1-239-409-11	RES, CHIP NETWORK	47	-3216
RB3425	1-239-409-11	RES, CHIP NETWORK	47	-3216

CRYSTAL

X3001	1-577-082-11	VIBRATOR, CERAMIC			
X3047	1-567-505-11	OSCILLATOR, CRYSTAL			
X3089	1-781-945-21	VIBRATOR, CERAMIC			
X3110	1-567-505-11	OSCILLATOR, CRYSTAL			
X3401	1-781-887-21	VIBRATOR, CRYSTAL			
X3601	1-767-179-31	VIBRATOR, CERAMIC			
X3602	1-767-179-31	VIBRATOR, CERAMIC			
X3603	1-767-989-11	VIBRATOR, CERAMIC			

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*	**A-1299-481-A**	**A BOARD, COMPLETE**			
*	4-374-846-11	COVER,CAPACITOR, CAP TYPE			
	4-382-854-01	SCREW (M3X8), P, SW (+)			

CAPACITOR

C001	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C002	1-104-665-11	ELECT	100µF	20%	10V
C003	1-126-960-11	ELECT	1µF	20%	50V
C004	1-126-967-11	ELECT	47µF	20%	50V
C005	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C006	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C007	1-126-933-11	ELECT	100µF	20%	16V
C008	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C009	1-126-964-11	ELECT	10µF	20%	50V
C010	1-126-933-11	ELECT	100µF	20%	16V
C011	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C012	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C013	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C014	1-126-960-11	ELECT	1µF	20%	50V

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C023	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C025	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C027	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C028	1-126-933-11	ELECT	100µF	20%	16V
C030	1-104-665-11	ELECT	100µF	20%	10V
C032	1-126-933-11	ELECT	100µF	20%	16V
C035	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C037	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C038	1-126-935-11	ELECT	470µF	20%	16V
C039	1-126-964-11	ELECT	10µF	20%	50V
C041	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C048	1-126-964-11	ELECT	10µF	20%	50V
C051	1-107-714-11	ELECT	10µF	20%	16V
C052	1-107-714-11	ELECT	10µF	20%	16V
C115	1-163-001-11	CERAMIC CHIP	220pF	10%	50V
C116	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C117	1-164-346-11	CERAMIC CHIP	1µF		16V
C119	1-163-001-11	CERAMIC CHIP	220pF	10%	50V
C120	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C121	1-164-346-11	CERAMIC CHIP	1µF		16V
C205	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C210	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C211	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C212	1-126-933-11	ELECT	100µF	20%	16V
C213	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C214	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C216	1-126-933-11	ELECT	100µF	20%	16V
C217	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C219	1-164-344-11	CERAMIC CHIP	0.068µF	10%	25V
C220	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C221	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C222	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C224	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C225	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C226	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C227	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C229	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C230	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C232	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C233	1-164-492-11	CERAMIC CHIP	0.15µF	10%	16V
C234	1-125-838-11	CERAMIC CHIP	2.2µF	10%	6.3V
C235	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C236	1-126-964-11	ELECT	10µF	20%	50V
C237	1-126-933-11	ELECT	100µF	20%	16V
C238	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C239	1-126-964-11	ELECT	10µF	20%	50V
C240	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C241	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C242	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C243	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C244	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
C245	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C246	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C247	1-126-933-11	ELECT	100µF	20%	16V
C248	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C249	1-126-967-11	ELECT	47µF	20%	50V
C250	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C251	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C252	1-126-933-11	ELECT	100µF	20%	16V
C253	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C254	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C255	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C256	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C257	1-127-760-11	CERAMIC CHIP	4.7µF	10%	6.3V
C258	1-164-346-11	CERAMIC CHIP	1µF		16V
C259	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C260	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C261	1-126-933-11	ELECT	100µF	20%	16V
C262	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C701	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C702	1-104-660-91	ELECT	47µF	20%	16V
C703	1-104-660-91	ELECT	47µF	20%	16V
C705	1-164-346-11	CERAMIC CHIP	1µF		16V
C708	1-164-346-11	CERAMIC CHIP	1µF		16V
C710	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C711	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C712	1-104-660-91	ELECT	47µF	20%	16V
C713	1-164-690-91	CERAMIC CHIP	0.0022µF	5%	50V
C715	1-126-964-11	ELECT	10µF	20%	50V
C717	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C718	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C719	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C720	1-126-935-11	ELECT	470µF	20%	16V
C721	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C722	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C724	1-126-961-11	ELECT	2.2µF	20%	50V
C731	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C732	1-163-251-11	CERAMIC CHIP	100pF	5%	50V

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	C733	1-163-031-91	CERAMIC CHIP	0.01µF		50V
	C735	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
	C747	1-126-767-11	ELECT	1000µF	20%	16V
	C748	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
⚠	C6002	1-136-346-21	MYLAR	0.22µF	20%	125V
	C6003	1-117-227-11	MYLAR	1µF	10%	450V
	C6004	1-126-961-11	ELECT	2.2µF	20%	50V
	C6005	1-126-961-11	ELECT	2.2µF	20%	50V
	C6006	1-126-967-11	ELECT	47µF	20%	50V
	C6007	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
	C6008	1-126-968-11	ELECT	100µF	20%	50V
	C6009	1-104-664-11	ELECT	47µF	20%	25V
	C6011	1-126-968-11	ELECT	100µF	20%	50V
	C6013	1-119-887-51	CERAMIC	1000pF	20%	250V
	C6014	1-135-945-21	FILM	10000pF	3%	800V
	C6015	1-137-399-11	MYLAR	0.1µF	5%	100V
	C6017	1-125-969-91	CERAMIC	680pF	10%	1KV
	C6018	1-126-929-11	ELECT	4700µF	20%	10V
	C6019	1-128-546-11	ELECT	10000µF	20%	10V
	C6020	1-126-936-11	ELECT	3300µF	20%	16V
	C6021	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
	C6026	1-126-933-11	ELECT	100µF	20%	16V
	C6027	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
⚠	C6029	1-136-311-11	MYLAR	0.47µF	20%	125V
	C6030	1-126-935-11	ELECT	470µF	20%	16V
	C6033	1-126-941-11	ELECT	470µF	20%	25V
	C6045	1-126-926-11	ELECT	1000µF	20%	10V
	C6048	1-126-767-11	ELECT	1000µF	20%	16V
	C6057	1-126-916-11	ELECT	1000µF	20%	6.3V
	C6059	1-126-971-11	ELECT	470µF	20%	50V
	C6060	1-135-573-91	ELECT	1500µF	20%	25V
	C6061	1-126-960-11	ELECT	1µF	20%	50V
	C6062	1-104-664-11	ELECT	47µF	20%	25V
	C6063	1-136-479-11	FILM	0.001µF	2%	50V
	C6064	1-126-964-11	ELECT	10µF	20%	50V
	C6065	1-126-933-11	ELECT	100µF	20%	16V
	C7001	1-126-961-11	ELECT	2.2µF	20%	50V
	C7006	1-126-767-11	ELECT	1000µF	20%	16V
	C7007	1-136-169-00	FILM	0.22µF	5%	50V
	C7008	1-126-767-11	ELECT	1000µF	20%	16V
	C7009	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C7010	1-126-963-11	ELECT	4.7µF	20%	50V
	C7011	1-126-959-11	ELECT	0.47µF	20%	50V
	C7012	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
	C7013	1-164-182-11	CERAMIC CHIP	0.0033µF	10%	50V
	C7014	1-163-989-11	CERAMIC CHIP	0.033µF	10%	25V
	C7015	1-163-989-11	CERAMIC CHIP	0.033µF	10%	25V
	C7016	1-126-959-11	ELECT	0.47µF	20%	50V
	C7017	1-126-963-11	ELECT	4.7µF	20%	50V
	C7018	1-136-169-00	FILM	0.22µF	5%	50V
	C7019	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
	C7020	1-163-989-11	CERAMIC CHIP	0.033µF	10%	25V
	C7021	1-164-182-11	CERAMIC CHIP	0.0033µF	10%	50V
	C7022	1-163-989-11	CERAMIC CHIP	0.033µF	10%	25V
	C7023	1-126-935-11	ELECT	470µF	20%	16V
	C7024	1-126-935-11	ELECT	470µF	20%	16V
	C7025	1-126-960-11	ELECT	1µF	20%	50V
	C7026	1-126-960-11	ELECT	1µF	20%	50V
	C7028	1-136-165-00	FILM	0.1µF	5%	50V
	C7029	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
	C7030	1-126-953-11	ELECT	2200µF	20%	35V
	C7032	1-163-038-91	CERAMIC CHIP	0.1µF		25V
	C7033	1-126-934-11	ELECT	220µF	20%	16V
	C7034	1-136-165-00	FILM	0.1µF	5%	50V
	C7035	1-136-165-00	FILM	0.1µF	5%	50V
	C7036	1-126-942-61	ELECT	1000µF	20%	25V
	C7037	1-136-160-00	FILM	0.039µF	5%	50V
	C7038	1-126-942-61	ELECT	1000µF	20%	25V
	C7039	1-136-160-00	FILM	0.039µF	5%	50V
	C7056	1-126-953-11	ELECT	2200µF	20%	35V
	C7057	1-126-953-11	ELECT	2200µF	20%	35V
	C7058	1-126-960-11	ELECT	1µF	20%	50V
	C7059	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C7061	1-126-964-11	ELECT	10µF	20%	50V
	C7062	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
	C7063	1-136-165-00	FILM	0.1µF	5%	50V
	C7064	1-126-953-11	ELECT	2200µF	20%	35V
	C7066	1-136-165-00	FILM	0.1µF	5%	50V
	C7067	1-136-165-00	FILM	0.1µF	5%	50V
	C7069	1-136-165-00	FILM	0.1µF	5%	50V
	C7070	1-136-165-00	FILM	0.1µF	5%	50V
	C7071	1-137-437-11	MYLAR	0.0056µF	5%	50V
	C7072	1-137-437-11	MYLAR	0.0056µF	5%	50V
	C7074	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C7075	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
	C7076	1-126-968-11	ELECT	100µF	20%	50V
	C7077	1-126-960-11	ELECT	1µF	20%	50V
	C7078	1-126-960-11	ELECT	1µF	20%	50V

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	C7084	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
	C7088	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
	C7089	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
	C7090	1-104-664-11	ELECT	47µF	20%	25V
	C7094	1-126-960-11	ELECT	1µF	20%	50V
	C7095	1-126-960-11	ELECT	1µF	20%	50V
	C7096	1-126-960-11	ELECT	1µF	20%	50V
	C7099	1-126-964-11	ELECT	10µF	20%	50V
	C7101	1-126-935-11	ELECT	470µF	20%	16V
	C7102	1-126-934-11	ELECT	220µF	20%	16V
	C7103	1-163-038-91	CERAMIC CHIP	0.1µF		25V
	C7105	1-126-935-11	ELECT	470µF	20%	16V
	C7108	1-126-961-11	ELECT	2.2µF	20%	50V
	C7109	1-126-961-11	ELECT	2.2µF	20%	50V
	C7110	1-126-941-11	ELECT	470µF	20%	25V
	C7151	1-126-967-11	ELECT	47µF	20%	50V
	C7152	1-126-967-11	ELECT	47µF	20%	50V
		CONNECTOR				
*	CN001	1-573-296-21	CONNECTOR, BOARD TO BOARD			10P
*	CN003	1-785-304-11	CONNECTOR, DIN (RECEPTACLE)			64
*	CN201	1-779-892-11	CONNECTOR, BOARD TO BOARD			10P
*	CN202	1-764-333-11	PLUG,CONNECTOR			10P
*	CN203	1-779-892-11	CONNECTOR, BOARD TO BOARD			10P
*	CN204	1-564-506-11	PLUG,CONNECTOR			3P
*	CN701	1-564-515-11	PLUG,CONNECTOR			12P
*	CN702	1-779-891-11	CONNECTOR, BOARD TO BOARD			8P
*	CN703	1-779-891-11	CONNECTOR, BOARD TO BOARD			8P
*	CN706	1-779-891-11	CONNECTOR, BOARD TO BOARD			8P
*	CN707	1-564-507-11	PLUG,CONNECTOR			4P
*	CN6001	1-766-241-11	PIN,CONNECTOR (PC BOARD)			3P
*	CN6002	1-766-241-11	PIN,CONNECTOR (PC BOARD)			3P
*	CN6003	1-508-786-00	PIN,CONNECTOR (5MM PITCH)			2P
*	CN6005	1-766-176-11	PIN,CONNECTOR (PC BOARD)			6P
*	CN6006	1-779-891-11	CONNECTOR, BOARD TO BOARD			8P
	CN6007	1-580-843-11	PIN,CONNECTOR (POWER)			
*	CN6013	1-766-240-11	PIN,CONNECTOR (PC BOARD)			2P
*	CN7001	1-573-296-21	CONNECTOR, BOARD TO BOARD			10P
*	CN7003	1-564-511-11	PLUG,CONNECTOR			8P
*	CN7008	1-564-511-61	PLUG,CONNECTOR			8P

REF.NO.	PART NO.	DESCRIPTION	VALUES
	DIODE		
D004	8-719-977-28	DIODE UDZSTE-1710B	
D008	8-719-977-28	DIODE UDZSTE-1710B	
D203	8-719-025-31	DIODE 02CZ5.6-TE85L	
D211	8-719-991-33	DIODE 1SS133T-77	
D212	8-719-404-50	DIODE MA111-TX	
D214	8-719-404-50	DIODE MA111-TX	
D215	8-719-404-50	DIODE MA111-TX	
D701	8-719-914-43	DIODE DAN202K-T-146	
D703	8-719-914-43	DIODE DAN202K-T-146	
D705	8-719-404-50	DIODE MA111-TX	
D706	8-719-914-43	DIODE DAN202K-T-146	
D707	8-719-914-43	DIODE DAN202K-T-146	
D708	8-719-404-50	DIODE MA111-TX	
D709	8-719-991-33	DIODE 1SS133T-77	
D710	8-719-914-43	DIODE DAN202K-T-146	
D711	8-719-914-44	DIODE DAP202K-T-146	
D715	8-719-914-43	DIODE DAN202K-T-146	
D716	8-719-914-44	DIODE DAP202K-T-146	
D719	8-719-404-50	DIODE MA111-TX	
D720	8-719-404-50	DIODE MA111-TX	
D721	8-719-404-50	DIODE MA111-TX	
D722	8-719-404-50	DIODE MA111-TX	
D723	8-719-914-43	DIODE DAN202K-T-146	
D724	8-719-404-50	DIODE MA111-TX	
D725	8-719-404-50	DIODE MA111-TX	
D726	8-719-404-50	DIODE MA111-TX	
D727	8-719-404-50	DIODE MA111-TX	
D728	8-719-404-50	DIODE MA111-TX	
D6001	8-719-991-33	DIODE 1SS133T-77	
D6002	8-719-991-33	DIODE 1SS133T-77	
D6003	8-719-979-64	DIODE µF4005PKG23	
D6005	8-719-063-73	DIODE D1NL20U-TR	
D6009	8-719-063-73	DIODE D1NL20U-TR	
D6011	8-719-031-79	DIODE D5SC4M	
D6012	8-719-031-79	DIODE D5SC4M	
D6013	8-719-031-79	DIODE D5SC4M	
D6014	8-719-921-63	DIODE MTZJ-T-77-7.5B	
D6017	8-719-921-37	DIODE MTZJ-T-77-4.7	
D6018	8-719-991-33	DIODE 1SS133T-77	
D6020	8-719-511-40	DIODE S1VB20	
D6025	8-719-404-50	DIODE MA111-TX	
D7002	8-719-991-33	DIODE 1SS133T-77	

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

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	REF.NO.	PART NO.	DESCRIPTION	VALUES
	D7003	8-719-914-43	DIODE DAN202K-T-146	
	D7004	8-719-914-44	DIODE DAP202K-T-146	
	D7005	8-719-071-74	DIODE HZU11B1TRF	
	D7009	8-719-404-50	DIODE MA111-TX	
	D7010	8-719-404-50	DIODE MA111-TX	
	D7011	8-719-404-50	DIODE MA111-TX	
	D7012	8-719-404-50	DIODE MA111-TX	
	D7013	8-719-041-97	DIODE MA113-(TX)	
	D7014	8-719-924-13	DIODE MTZJ-T-77-22B	
	D7015	8-719-924-13	DIODE MTZJ-T-77-22B	
	D7016	8-719-041-97	DIODE MA113-(TX)	
	D7017	8-719-041-97	DIODE MA113-(TX)	
	D7103	8-719-404-50	DIODE MA111-TX	
		FUSE		
⚠	F6001	1-532-506-51	FUSE	6.3A/250V
		FERRITE BEAD		
	FB6001	1-412-911-11	FERRITE	0µH
	FB6003	1-412-911-11	FERRITE	0µH
	FB6004	1-412-911-11	FERRITE	0µH
	FB6005	1-412-911-11	FERRITE	0µH
	FB6007	1-412-911-11	FERRITE	0µH
⚠	FB6012	1-412-911-11	FERRITE	0µH
⚠	FB6013	1-412-911-11	FERRITE	0µH
		FUSE HOLDER		
	FH6001	1-533-223-11	HOLDER, FUSE	
	FH6002	1-533-223-11	HOLDER, FUSE	
		IC		
	IC201	8-752-100-25	IC CXA2150AQ	
	IC701	6-800-051-01	IC M306V2ME-153FP	
	IC702	8-759-349-11	IC PST9145NL	
	IC707	8-759-672-78	IC M24C08-BN6(A)	
⚠	IC6001	8-759-670-30	IC MCZ3001D	
	IC6002	8-759-140-85	IC UPC1093J-T	
	IC6003	8-759-520-49	IC PQ30RV21	
	IC6007	8-759-513-71	IC PQ05RF21	
	IC6010	8-759-653-07	IC PQ09RD21	
	IC6011	8-759-450-47	IC BA05T	
	IC7001	8-759-678-92	IC BH3868AFS-E2	
⚠	IC7002	8-759-246-70	IC TA8216H	
⚠	IC7005	8-759-246-70	IC TA8216H	
	IC7006	8-759-331-71	IC NJM4558E(TE2)	
	IC7007	8-759-331-71	IC NJM4558E(TE2)	
		COIL		
	L001	1-469-320-21	INDUCTOR	100µH
	L002	1-469-320-21	INDUCTOR	100µH
	L003	1-469-317-21	INDUCTOR	10µH
	L004	1-469-320-21	INDUCTOR	100µH
	L005	1-469-320-21	INDUCTOR	100µH
	L006	1-469-317-21	INDUCTOR	10µH
	L201	1-469-317-21	INDUCTOR	10µH
	L202	1-469-317-21	INDUCTOR	10µH
	L203	1-469-317-21	INDUCTOR	10µH
	L701	1-412-911-11	FERRITE	0µH
	L702	1-412-911-11	FERRITE	0µH
	L703	1-414-179-21	INDUCTOR	2.2µH
	L6001	1-406-665-11	INDUCTOR	100µH
	L6002	1-406-659-11	INDUCTOR	10µH
	L6003	1-406-659-11	INDUCTOR	10µH
	L6004	1-412-525-31	INDUCTOR	10µH
	L6006	1-412-519-11	INDUCTOR	3.3µH
	L6007	1-412-519-11	INDUCTOR	3.3µH
	L6008	1-469-317-21	INDUCTOR	10µH
	L7002	1-414-187-11	INDUCTOR	47µH
		PHOTO COUPLER		
	PH6001	8-749-924-35	PHOTO COUPLER	ON3171-R
		TRANSISTOR		
	Q001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q002	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q004	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q012	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q015	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q027	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q203	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
	Q204	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
	Q207	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
	Q208	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
	Q209	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q211	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q212	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q214	1-801-806-11	TRANSISTOR DTC144EKA-T146	

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REF.NO.	PART NO.	DESCRIPTION	VALUES
Q216	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q217	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q701	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q702	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q703	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q704	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q705	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q706	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q707	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q709	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q710	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q712	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q717	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q721	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q723	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q724	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q726	8-729-901-47	TRANSISTOR DTA143EKA-T146	
Q727	8-729-901-47	TRANSISTOR DTA143EKA-T146	
Q728	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q729	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q730	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q731	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6002	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q6007	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122	
Q6008	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122	
Q6009	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6010	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q7001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q7004	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q7005	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q7009	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q7010	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q7013	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q7014	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q7015	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q7016	8-729-900-53	TRANSISTOR DTC114EKA-T146	

RESISTOR

R004	1-216-049-11	RES-CHIP	1K	5%	1/10W
R005	1-216-049-11	RES-CHIP	1K	5%	1/10W
R006	1-216-295-91	SHORT			
R007	1-216-017-91	RES-CHIP	47	5%	1/10W
R008	1-216-073-91	RES-CHIP	10K	5%	1/10W
R009	1-216-017-91	RES-CHIP	47	5%	1/10W
R010	1-216-073-91	RES-CHIP	10K	5%	1/10W
R011	1-216-113-00	RES-CHIP	470K	5%	1/10W
R012	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R013	1-216-081-00	RES-CHIP	22K	5%	1/10W
R014	1-216-085-91	RES-CHIP	33K	5%	1/10W
R015	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R016	1-216-025-11	RES-CHIP	100	5%	1/10W
R017	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R037	1-216-295-91	SHORT			
R039	1-216-025-11	RES-CHIP	100	5%	1/10W
R042	1-216-025-11	RES-CHIP	100	5%	1/10W
R049	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R052	1-216-085-91	RES-CHIP	33K	5%	1/10W
R055	1-216-081-00	RES-CHIP	22K	5%	1/10W
R061	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R065	1-216-025-11	RES-CHIP	100	5%	1/10W
R082	1-216-073-91	RES-CHIP	10K	5%	1/10W
R083	1-216-073-91	RES-CHIP	10K	5%	1/10W
R160	1-216-113-00	RES-CHIP	470K	5%	1/10W
R163	1-216-642-11	METAL CHIP	430	0.50%	1/10W
R164	1-216-041-00	RES-CHIP	470	5%	1/10W
R165	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R166	1-216-097-11	RES-CHIP	100K	5%	1/10W
R167	1-216-121-11	RES-CHIP	1M	5%	1/10W
R168	1-216-073-91	RES-CHIP	10K	5%	1/10W
R169	1-216-073-91	RES-CHIP	10K	5%	1/10W
R170	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R171	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R172	1-216-097-11	RES-CHIP	100K	5%	1/10W
R173	1-216-121-11	RES-CHIP	1M	5%	1/10W
R174	1-216-073-91	RES-CHIP	10K	5%	1/10W
R175	1-216-073-91	RES-CHIP	10K	5%	1/10W
R176	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R204	1-216-073-91	RES-CHIP	10K	5%	1/10W
R205	1-216-025-11	RES-CHIP	100	5%	1/10W
R206	1-208-752-11	METAL CHIP	56	0.50%	1/10W
R207	1-249-413-11	CARBON	470	5%	1/4W
R208	1-216-295-91	SHORT			
R210	1-216-025-11	RES-CHIP	100	5%	1/10W
R211	1-208-752-11	METAL CHIP	56	0.50%	1/10W
R215	1-249-413-11	CARBON	470	5%	1/4W
R219	1-216-025-11	RES-CHIP	100	5%	1/10W
R220	1-208-752-11	METAL CHIP	56	0.50%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R221	1-249-413-11	CARBON	470	5%	1/4W	R275	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R223	1-216-025-11	RES-CHIP	100	5%	1/10W	R276	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R224	1-216-025-11	RES-CHIP	100	5%	1/10W	R277	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R226	1-216-073-91	RES-CHIP	10K	5%	1/10W	R278	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R228	1-216-025-11	RES-CHIP	100	5%	1/10W	R280	1-216-295-91	SHORT			
R229	1-216-025-11	RES-CHIP	100	5%	1/10W	R281	1-216-295-91	SHORT			
R230	1-216-025-11	RES-CHIP	100	5%	1/10W	R282	1-216-295-91	SHORT			
R231	1-216-025-11	RES-CHIP	100	5%	1/10W	R283	1-216-295-91	SHORT			
R232	1-216-025-11	RES-CHIP	100	5%	1/10W	R284	1-216-295-91	SHORT			
R233	1-216-025-11	RES-CHIP	100	5%	1/10W	R701	1-216-089-91	RES-CHIP	47K	5%	1/10W
R234	1-216-025-11	RES-CHIP	100	5%	1/10W	R702	1-216-097-11	RES-CHIP	100K	5%	1/10W
R235	1-216-025-11	RES-CHIP	100	5%	1/10W	R703	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R236	1-216-025-11	RES-CHIP	100	5%	1/10W	R704	1-216-073-91	RES-CHIP	10K	5%	1/10W
R237	1-216-025-11	RES-CHIP	100	5%	1/10W	R705	1-216-101-00	RES-CHIP	150K	5%	1/10W
R238	1-216-025-11	RES-CHIP	100	5%	1/10W	R706	1-216-073-91	RES-CHIP	10K	5%	1/10W
R239	1-216-059-00	RES-CHIP	2.7K	5%	1/10W	R707	1-216-097-11	RES-CHIP	100K	5%	1/10W
R240	1-216-061-91	RES-CHIP	3.3K	5%	1/10W	R708	1-216-025-11	RES-CHIP	100	5%	1/10W
R241	1-216-133-91	RES-CHIP	3.3M	5%	1/10W	R709	1-216-097-11	RES-CHIP	100K	5%	1/10W
R242	1-216-075-00	RES-CHIP	12K	5%	1/10W	R710	1-216-073-91	RES-CHIP	10K	5%	1/10W
R243	1-216-073-91	RES-CHIP	10K	5%	1/10W	R711	1-216-073-91	RES-CHIP	10K	5%	1/10W
R244	1-216-025-11	RES-CHIP	100	5%	1/10W	R712	1-216-049-11	RES-CHIP	1K	5%	1/10W
R245	1-216-073-91	RES-CHIP	10K	5%	1/10W	R713	1-216-025-11	RES-CHIP	100	5%	1/10W
R246	1-216-073-91	RES-CHIP	10K	5%	1/10W	R714	1-216-025-11	RES-CHIP	100	5%	1/10W
R247	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R719	1-216-049-11	RES-CHIP	1K	5%	1/10W
R248	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R721	1-216-049-11	RES-CHIP	1K	5%	1/10W
R249	1-216-025-11	RES-CHIP	100	5%	1/10W	R727	1-216-049-11	RES-CHIP	1K	5%	1/10W
R250	1-216-097-11	RES-CHIP	100K	5%	1/10W	R729	1-216-049-11	RES-CHIP	1K	5%	1/10W
R251	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R731	1-216-073-91	RES-CHIP	10K	5%	1/10W
R252	1-216-025-11	RES-CHIP	100	5%	1/10W	R740	1-216-073-91	RES-CHIP	10K	5%	1/10W
R253	1-216-043-91	RES-CHIP	560	5%	1/10W	R741	1-216-073-91	RES-CHIP	10K	5%	1/10W
R255	1-216-025-11	RES-CHIP	100	5%	1/10W	R742	1-216-041-00	RES-CHIP	470	5%	1/10W
R256	1-216-041-00	RES-CHIP	470	5%	1/10W	R743	1-216-025-11	RES-CHIP	100	5%	1/10W
R257	1-216-017-91	RES-CHIP	47	5%	1/10W	R744	1-216-049-11	RES-CHIP	1K	5%	1/10W
R258	1-216-017-91	RES-CHIP	47	5%	1/10W	R748	1-216-081-00	RES-CHIP	22K	5%	1/10W
R259	1-216-017-91	RES-CHIP	47	5%	1/10W	R749	1-216-049-11	RES-CHIP	1K	5%	1/10W
R260	1-216-037-00	RES-CHIP	330	5%	1/10W	R754	1-216-025-11	RES-CHIP	100	5%	1/10W
R261	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	R755	1-216-025-11	RES-CHIP	100	5%	1/10W
R262	1-216-025-11	RES-CHIP	100	5%	1/10W	R756	1-216-025-11	RES-CHIP	100	5%	1/10W
R263	1-216-071-00	RES-CHIP	8.2K	5%	1/10W	R757	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R264	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R758	1-216-025-11	RES-CHIP	100	5%	1/10W
R265	1-216-073-91	RES-CHIP	10K	5%	1/10W	R762	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R266	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R763	1-216-295-91	SHORT			
R267	1-216-073-91	RES-CHIP	10K	5%	1/10W	R764	1-216-049-11	RES-CHIP	1K	5%	1/10W
R274	1-216-025-11	RES-CHIP	100	5%	1/10W	R767	1-216-049-11	RES-CHIP	1K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R769	1-216-049-11	RES-CHIP	1K	5%	1/10W
R771	1-216-049-11	RES-CHIP	1K	5%	1/10W
R772	1-216-081-00	RES-CHIP	22K	5%	1/10W
R773	1-216-081-00	RES-CHIP	22K	5%	1/10W
R774	1-216-081-00	RES-CHIP	22K	5%	1/10W
R776	1-216-049-11	RES-CHIP	1K	5%	1/10W
R777	1-216-073-91	RES-CHIP	10K	5%	1/10W
R780	1-216-073-91	RES-CHIP	10K	5%	1/10W
R781	1-216-025-11	RES-CHIP	100	5%	1/10W
R784	1-216-025-11	RES-CHIP	100	5%	1/10W
R785	1-216-049-11	RES-CHIP	1K	5%	1/10W
R787	1-216-121-11	RES-CHIP	1M	5%	1/10W
R788	1-216-295-91	SHORT			
R789	1-216-041-00	RES-CHIP	470	5%	1/10W
R791	1-216-025-11	RES-CHIP	100	5%	1/10W
R792	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R793	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R794	1-216-017-91	RES-CHIP	47	5%	1/10W
R795	1-216-025-11	RES-CHIP	100	5%	1/10W
R796	1-216-295-91	SHORT			
R797	1-216-017-91	RES-CHIP	47	5%	1/10W
R798	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R799	1-216-049-11	RES-CHIP	1K	5%	1/10W
R800	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R801	1-216-025-11	RES-CHIP	100	5%	1/10W
R802	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R803	1-216-017-91	RES-CHIP	47	5%	1/10W
R804	1-216-037-00	RES-CHIP	330	5%	1/10W
R805	1-216-037-00	RES-CHIP	330	5%	1/10W
R806	1-216-037-00	RES-CHIP	330	5%	1/10W
R807	1-216-017-91	RES-CHIP	47	5%	1/10W
R808	1-216-049-11	RES-CHIP	1K	5%	1/10W
R812	1-216-049-11	RES-CHIP	1K	5%	1/10W
R813	1-216-049-11	RES-CHIP	1K	5%	1/10W
R814	1-216-025-11	RES-CHIP	100	5%	1/10W
R815	1-216-025-11	RES-CHIP	100	5%	1/10W
R816	1-216-025-11	RES-CHIP	100	5%	1/10W
R817	1-216-025-11	RES-CHIP	100	5%	1/10W
R818	1-216-025-11	RES-CHIP	100	5%	1/10W
R819	1-216-037-00	RES-CHIP	330	5%	1/10W
R822	1-216-037-00	RES-CHIP	330	5%	1/10W
R824	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R825	1-216-025-11	RES-CHIP	100	5%	1/10W
R827	1-216-061-91	RES-CHIP	3.3K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R828	1-216-073-91	RES-CHIP	10K	5%	1/10W
R829	1-216-073-91	RES-CHIP	10K	5%	1/10W
R830	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R834	1-216-041-00	RES-CHIP	470	5%	1/10W
R836	1-216-049-11	RES-CHIP	1K	5%	1/10W
R837	1-216-025-11	RES-CHIP	100	5%	1/10W
R838	1-216-049-11	RES-CHIP	1K	5%	1/10W
R839	1-216-025-11	RES-CHIP	100	5%	1/10W
R841	1-216-033-00	RES-CHIP	220	5%	1/10W
R842	1-216-081-00	RES-CHIP	22K	5%	1/10W
R843	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R847	1-216-025-11	RES-CHIP	100	5%	1/10W
R848	1-216-025-11	RES-CHIP	100	5%	1/10W
R849	1-216-295-91	SHORT			
R850	1-216-295-91	SHORT			
R851	1-216-295-91	SHORT			
R852	1-216-049-11	RES-CHIP	1K	5%	1/10W
R853	1-216-295-91	SHORT			
R854	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R856	1-216-049-11	RES-CHIP	1K	5%	1/10W
R857	1-216-025-11	RES-CHIP	100	5%	1/10W
R858	1-216-295-91	SHORT			
R859	1-216-295-91	SHORT			
R860	1-216-689-11	RES-CHIP	39K	5%	1/10W
R861	1-216-689-11	RES-CHIP	39K	5%	1/10W
R862	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R863	1-216-049-11	RES-CHIP	1K	5%	1/10W
R864	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R865	1-216-295-91	SHORT			
R866	1-216-295-91	SHORT			
R867	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6001	1-216-073-91	RES-CHIP	10K	5%	1/10W
⚠ R6002	1-249-393-11	CARBON	10	5%	1/4W
⚠ R6003	1-219-776-11	CARBON	2.2M	10%	1/2W
R6004	1-216-121-11	RES-CHIP	1M	5%	1/10W
⚠ R6006	1-220-926-11	FUSIBLE	0.47	10%	1/2W
R6007	1-215-481-00	METAL	330K	1%	1/4W
R6008	1-215-481-00	METAL	330K	1%	1/4W
R6009	1-215-481-00	METAL	330K	1%	1/4W
R6010	1-249-393-11	CARBON	10	5%	1/4W
R6011	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R6012	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6015	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6019	1-216-073-91	RES-CHIP	10K	5%	1/10W

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	R6020	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
	R6021	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
	R6022	1-208-803-11	METAL CHIP	7.5K	0.50%	1/10W
	R6025	1-249-417-11	CARBON	1K	5%	1/4W
	R6029	1-216-105-91	RES-CHIP	220K	5%	1/10W
	R6038	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
	R6039	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
	R6040	1-208-840-11	METAL CHIP	270K	0.50%	1/10W
⚠	R6041	1-240-241-11	CEMENTED	0.47	5%	20W
⚠	R6042	1-240-241-11	CEMENTED	0.47	5%	20W
	R6043	1-211-964-11	METAL CHIP	33	0.50%	1/10W
	R6044	1-249-393-11	CARBON	10	5%	1/4W
	R6046	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6047	1-216-041-00	RES-CHIP	470	5%	1/10W
	R6049	1-216-363-00	METAL OXIDE	0.33	5%	2W
	R6050	1-216-363-00	METAL OXIDE	0.33	5%	2W
	R6051	1-249-393-11	CARBON	10	5%	1/4W
	R6052	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6053	1-215-907-11	METAL OXIDE	22	5%	3W
	R6055	1-216-295-91	SHORT			
	R6056	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
	R6058	1-208-758-11	METAL CHIP	100	0.50%	1/10W
	R6059	1-249-417-11	CARBON	1K	5%	1/4W
	R6062	1-216-295-91	SHORT			
	R6063	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6064	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
	R6065	1-216-049-11	RES-CHIP	1K	5%	1/10W
⚠	R6066	1-216-343-00	METAL OXIDE	0.33	5%	1W
	R6067	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R6068	1-249-433-11	CARBON	22K	5%	1/4W
	R7002	1-216-097-11	RES-CHIP	100K	5%	1/10W
	R7003	1-216-689-11	RES-CHIP	39K	5%	1/10W
	R7004	1-216-689-11	RES-CHIP	39K	5%	1/10W
	R7005	1-216-121-11	RES-CHIP	1M	5%	1/10W
	R7006	1-216-089-91	RES-CHIP	47K	5%	1/10W
	R7007	1-216-017-91	RES-CHIP	47	5%	1/10W
	R7008	1-216-085-91	RES-CHIP	33K	5%	1/10W
	R7009	1-216-295-91	SHORT			
	R7010	1-216-295-91	SHORT			
	R7011	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
	R7012	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
	R7013	1-216-077-91	RES-CHIP	15K	5%	1/10W
	R7014	1-249-429-11	CARBON	10K	5%	1/4W
	R7015	1-249-429-11	CARBON	10K	5%	1/4W
	R7016	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R7017	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R7018	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R7019	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R7021	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R7022	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R7023	1-249-385-11	CARBON	2.2	5%	1/4W
	R7024	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R7025	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R7026	1-249-385-11	CARBON	2.2	5%	1/4W
	R7045	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R7046	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
	R7047	1-216-041-00	RES-CHIP	470	5%	1/10W
	R7048	1-216-041-00	RES-CHIP	470	5%	1/10W
	R7051	1-216-295-91	SHORT			
	R7052	1-216-077-91	RES-CHIP	15K	5%	1/10W
	R7053	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R7054	1-216-295-91	SHORT			
	R7055	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
	R7056	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
	R7058	1-249-429-11	CARBON	10K	5%	1/4W
	R7059	1-249-385-11	CARBON	2.2	5%	1/4W
	R7060	1-249-385-11	CARBON	2.2	5%	1/4W
	R7061	1-216-295-91	SHORT			
	R7063	1-216-689-11	RES-CHIP	39K	5%	1/10W
	R7064	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R7065	1-216-041-00	RES-CHIP	470	5%	1/10W
	R7067	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R7068	1-216-041-00	RES-CHIP	470	5%	1/10W
	R7070	1-216-689-11	RES-CHIP	39K	5%	1/10W
	R7071	1-216-121-11	RES-CHIP	1M	5%	1/10W
	R7083	1-249-429-11	CARBON	10K	5%	1/4W
	R7086	1-216-295-91	SHORT			
	R7088	1-216-295-91	SHORT			
	R7090	1-216-089-91	RES-CHIP	47K	5%	1/10W
	R7091	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R7092	1-216-025-11	RES-CHIP	100	5%	1/10W
	R7093	1-216-025-11	RES-CHIP	100	5%	1/10W
	R7094	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R7095	1-216-089-91	RES-CHIP	47K	5%	1/10W
	R7096	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
	R7097	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
	R7098	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
	R7099	1-216-065-91	RES-CHIP	4.7K	5%	1/10W

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	R7100	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R7101	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R7103	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R7104	1-216-295-91	SHORT			
		RELAY				
⚠	RY6001	1-755-389-11	RELAY (AC POWER)			
		TRANSFORMER				
⚠	T6001	1-433-404-11	TRANSFORMER, LINE FILTER			
⚠	T6002	1-435-675-11	TRANSFORMER, STANDBY			
	T6003	1-435-577-11	TRANSFORMER, CONVERTER (PIT)			
		THERMISTOR				
⚠	TH6002	1-803-970-11	THERMISTOR, POSITIVE			
		TUNER				
⚠	TU001	8-598-501-30	TUNER, FSS BTF-FA402			
⚠	TU002	8-598-542-20	TUNER, FSS BTF-WA412			
		VARISTOR				
⚠	VD6001	1-801-074-11	VARISTOR ERZV10D271			
		CRYSTAL				
	X201	1-760-895-21	VIBRATOR, CERAMIC			
	X702	1-781-931-21	VIBRATOR, CRYSTAL			

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*		**A-1332-075-A**	**C BOARD, MOUNTED**			
		7-682-647-09	SCREW +PS 3X6			
		CAPACITOR				
	C9001	1-126-940-11	ELECT	330µF	20%	25V
	C9002	1-163-087-00	CERAMIC CHIP	4pF	0.25pF	50V
	C9003	1-163-087-00	CERAMIC CHIP	4pF	0.25pF	50V
	C9004	1-162-114-00	CERAMIC	.0047µF		2KV
	C9005	1-163-087-00	CERAMIC CHIP	4pF	0.25pF	50V
	C9006	1-163-217-11	CERAMIC CHIP	1pF	0.25pF	50V
	C9007	1-163-217-11	CERAMIC CHIP	1pF	0.25pF	50V
	C9008	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
	C9009	1-163-087-00	CERAMIC CHIP	4pF	0.25pF	50V
	C9010	1-163-087-00	CERAMIC CHIP	4pF	0.25pF	50V

	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	C9011	1-161-830-00	CERAMIC	.0047µF		500V
	C9012	1-161-830-00	CERAMIC	.0047µF		500V
	C9013	1-163-035-00	CERAMIC CHIP	0.047µF		50V
	C9014	1-161-830-00	CERAMIC	.0047µF		500V
	C9015	1-163-087-00	CERAMIC CHIP	4pF	0.25pF	50V
	C9018	1-107-961-91	ELECT	10µF	20%	250V
	C9019	1-163-035-00	CERAMIC CHIP	0.047µF		50V
	C9020	1-107-961-91	ELECT	10µF	20%	250V
	C9021	1-107-961-91	ELECT	10µF	20%	250V
	C9022	1-101-004-00	CERAMIC	0.01µF		50V
	C9023	1-101-004-00	CERAMIC	0.01µF		50V
	C9024	1-163-035-00	CERAMIC CHIP	0.047µF		50V
	C9025	1-104-653-11	ELECT	220µF	20%	16V
	C9026	1-163-035-00	CERAMIC CHIP	0.047µF		50V
	C9027	1-101-004-00	CERAMIC	0.01µF		50V
	C9028	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
	C9029	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
	C9030	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
	C9031	1-162-116-00	CERAMIC	680pF	10%	2KV
	C9032	1-162-116-00	CERAMIC	680pF	10%	2KV
	C9033	1-107-662-11	ELECT	22µF	20%	250V
	C9035	1-126-933-11	ELECT	100µF	20%	16V
	C9036	1-126-964-11	ELECT	10µF	20%	50V
	C9037	1-126-961-11	ELECT	2.2µF	20%	50V
	C9038	1-126-963-11	ELECT	4.7µF	20%	50V
	C9042	1-126-940-11	ELECT	330µF	20%	25V
	C9046	1-126-933-11	ELECT	100µF	20%	16V
	C9047	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
		CONNECTOR				
*	CN9001	1-764-333-11	PLUG,CONNECTOR			10P
*	CN9002	1-766-242-11	PIN,CONNECTOR (PC BOARD)			4P
	CN9003	1-695-915-11	TAB (CONTACT)			
	CN9004	1-695-915-11	TAB (CONTACT)			
		DIODE				
	D9001	8-719-991-33	DIODE 1SS133T-77			
	D9002	8-719-400-75	DIODE MA3091-TX			
	D9003	8-719-991-33	DIODE 1SS133T-77			
	D9005	8-719-404-50	DIODE MA111-TX			
	D9006	8-719-051-85	DIODE HSS83TD			
	D9007	8-719-051-85	DIODE HSS83TD			
	D9008	8-719-051-85	DIODE HSS83TD			
	D9009	8-719-908-03	DIODE GP08DPKG23			
	D9010	8-719-110-17	DIODE MTZJ-T-77-10			

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
D9013	8-719-991-33	DIODE 1SS133T-77			
D9014	8-719-991-33	DIODE 1SS133T-77			
D9015	8-719-991-33	DIODE 1SS133T-77			
D9016	8-719-991-33	DIODE 1SS133T-77			
D9017	8-719-991-33	DIODE 1SS133T-77			
	IC				
IC9001	8-759-360-83	IC TDA6111Q/N4			
IC9002	8-759-360-83	IC TDA6111Q/N4			
IC9003	8-759-360-83	IC TDA6111Q/N4			
	JACK				
⚠ J9001	1-451-470-21	SOCKET, CRT			
	COIL				
L9002	1-408-591-11	INDUCTOR	1µH		
L9003	1-408-591-11	INDUCTOR	1µH		
L9004	1-408-591-11	INDUCTOR	1µH		
L9005	1-406-666-21	INDUCTOR	150µH		
L9006	1-412-525-31	INDUCTOR	10µH		
	TRANSISTOR				
Q9001	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9002	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q9003	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9004	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q9008	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q9009	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9010	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9011	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			
Q9012	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q9014	8-729-823-81	TRANSISTOR 2SC4632LS-CB7			
	RESISTOR				
R9001	1-216-226-00	RES-CHIP	15K	5%	1/8W
R9004	1-249-428-11	CARBON	8.2K	5%	1/4W
R9005	1-249-421-11	CARBON	2.2K	5%	1/4W
R9006	1-249-429-11	CARBON	10K	5%	1/4W
R9007	1-208-789-11	METAL CHIP	2K	0.50%	1/10W
R9008	1-216-085-91	RES-CHIP	33K	5%	1/10W
R9009	1-249-429-11	CARBON	10K	5%	1/4W
R9010	1-249-429-11	CARBON	10K	5%	1/4W
R9012	1-249-417-11	CARBON	1K	5%	1/4W
R9013	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9014	1-249-409-11	CARBON	220	5%	1/4W
R9015	1-249-409-11	CARBON	220	5%	1/4W
R9016	1-249-409-11	CARBON	220	5%	1/4W
R9018	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R9019	1-216-212-00	RES-CHIP	3.9K	5%	1/8W
R9026	1-208-789-11	METAL CHIP	2K	0.50%	1/10W
R9031	1-208-789-11	METAL CHIP	2K	0.50%	1/10W
R9033	1-215-447-00	METAL	12K	1%	1/4W
R9034	1-215-439-00	METAL	5.6K	1%	1/4W
R9035	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R9036	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9037	1-240-233-71	METAL OXIDE	100	5%	3W
R9038	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R9039	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R9041	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9042	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9043	1-240-233-71	METAL OXIDE	100	5%	3W
R9044	1-240-233-71	METAL OXIDE	100	5%	3W
R9047	1-202-557-00	SOLID	220	20%	1/2W
R9048	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9049	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9050	1-249-424-11	CARBON	3.9K	5%	1/4W
R9051	1-202-557-00	SOLID	220	20%	1/2W
R9052	1-202-557-00	SOLID	220	20%	1/2W
R9053	1-249-424-11	CARBON	3.9K	5%	1/4W
R9054	1-249-424-11	CARBON	3.9K	5%	1/4W
R9055	1-260-126-81	CARBON	180K	5%	1/2W
R9056	1-202-549-00	SOLID	100	20%	1/2W
R9057	1-202-847-00	SOLID	560K	20%	1/2W
R9059	1-202-818-00	SOLID	1K	20%	1/2W
R9061	1-202-549-00	SOLID	100	20%	1/2W
R9062	1-260-123-11	CARBON	100K	5%	1/2W
R9063	1-260-123-11	CARBON	100K	5%	1/2W
R9064	1-260-126-81	CARBON	180K	5%	1/2W
R9065	1-249-425-11	CARBON	4.7K	5%	1/4W
R9067	1-219-769-11	CARBON	3.3M	5%	1/2W
R9068	1-216-101-00	RES-CHIP	150K	5%	1/10W
R9070	1-249-411-11	CARBON	330	5%	1/4W
R9071	1-249-411-11	CARBON	330	5%	1/4W
R9072	1-249-411-11	CARBON	330	5%	1/4W
R9073	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9076	1-219-769-11	CARBON	3.3M	5%	1/2W
R9077	1-249-417-11	CARBON	1K	5%	1/4W
R9078	1-249-427-11	CARBON	6.8K	5%	1/4W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R9079	1-249-426-11	CARBON	5.6K	5%	1/4W
R9081	1-247-843-11	CARBON	3.3K	5%	1/4W
R9083	1-249-436-11	CARBON	39K	5%	1/4W
R9084	1-260-126-81	CARBON	180K	5%	1/2W
R9085	1-260-126-81	CARBON	180K	5%	1/2W
R9089	1-215-445-00	METAL	10K	1%	1/4W
R9091	1-215-429-00	METAL	2.2K	1%	1/4W

VARIABLE RESISTOR

⚠ RV9001	1-241-714-11	RES, ADJ, METAL FILM	110M		
RV9002	1-241-788-11	RES, ADJ, CARBON	100K		

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* **A-1346-947-A D BOARD, COMPLETE**
(KV-32HS20/32XBR450 only)

* **A-1346-948-A D BOARD, COMPLETE**
(KV-36HS20/36HS20H/32XBR450C/36XBR450/36XBR450H only)

	3-710-578-01	COVER, VOLUME, 6 MOLD
	4-382-854-01	SCREW (M3X8), P, SW (+)
	4-382-854-21	SCREW (M3X14), P, SW (+)

The high-voltage leads associated with the FBT on this board are not included and must be ordered separately. Order the following leads when requesting this D Board:

⚠	1-251-715-22	CAP ASSY, HIGH-VOLTAGE
⚠	1-900-805-19	WIRE ASSY, FOCUS HV

CAPACITOR

C5001	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C5002	1-106-383-00	MYLAR	0.047µF	10%	200V
C5004	1-106-383-00	MYLAR	0.047µF	10%	200V
C5005	1-126-235-11	ELECT	100µF	20%	6.3V
C5006	1-126-964-11	ELECT	10µF	20%	50V
C5007	1-126-941-11	ELECT	470µF	20%	25V
C5008	1-126-940-11	ELECT	330µF	20%	25V
C5009	1-126-941-11	ELECT	470µF	20%	25V
C5011	1-107-641-11	ELECT	220µF	20%	160V
C5012	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
C5013	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C5015	1-107-884-11	ELECT	1000µF	20%	16V
C5016	1-136-171-00	FILM	0.33µF	5%	50V
C5017	1-115-185-11	CERAMIC CHIP	0.033µF	10%	50V
C5018	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C5019	1-126-968-11	ELECT	100µF	20%	50V
C5020	1-126-767-11	ELECT	1000µF	20%	16V
C5021	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C5022	1-137-368-11	MYLAR	.0047µF	5%	50V
C5023	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5024	1-102-038-00	CERAMIC	0.001µF		500V
C5025	1-130-471-00	MYLAR	0.001µF	5%	50V
C5026	1-107-655-11	ELECT	47µF	20%	250V
C5027	1-126-963-11	ELECT	4.7µF	20%	50V
C5028	1-126-963-11	ELECT	4.7µF	20%	50V
C5030	1-136-153-00	FILM	0.01µF	5%	50V
C5031	1-163-011-11	CERAMIC CHIP	0.0015µF	10%	50V
C5032	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C5033	1-136-165-00	FILM	0.1µF	5%	50V
C5034	1-162-114-00	CERAMIC	.0047µF		2KV
C5035	1-126-933-11	ELECT	100µF	20%	16V
C5036	1-126-941-11	ELECT	470µF	20%	25V
C5037	1-107-670-11	ELECT	10µF	20%	400V
C5038	1-104-660-91	ELECT	47µF	20%	16V
C5040	1-126-935-11	ELECT	470µF	20%	16V
C5041	1-126-935-11	ELECT	470µF	20%	16V
C5043	1-126-767-11	ELECT	1000µF	20%	16V
C5044	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C5045	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C5046	1-163-025-11	CERAMIC CHIP	0.001µF		50V
C5047	1-163-025-11	CERAMIC CHIP	0.001µF		50V
C5049	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C5050	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5051	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5052	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5053	1-107-372-11	MYLAR	0.22µF	10%	200V
C5056	1-162-318-11	CERAMIC	0.001µF	10%	500V
C5057	1-162-134-11	CERAMIC	470pF	10%	2KV
C5058	1-162-116-00	CERAMIC	680pF	10%	2KV
C5059	1-162-116-00	CERAMIC	680pF	10%	2KV
C5060	1-137-417-11	MYLAR	.0047µF	10%	200V
C5061	1-117-839-11	FILM	9100pF	3%	1.5KV
C5063	1-117-839-11	FILM	9100pF	3%	1.5KV
C5064	1-115-520-11	FILM	0.68µF	5%	250V
C5065	1-107-506-11	FILM	0.68µF	3%	400V
C5066	1-109-921-11	CERAMIC	0.0015µF	10%	500V
C5069	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5070	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5071	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C5072	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5073	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C5075	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5076	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5077	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5079	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5080	1-137-372-11	MYLAR	0.022µF	5%	50V
C5081	1-137-372-11	MYLAR	0.022µF	5%	50V
C5102	1-107-888-11	ELECT	47µF	20%	25V
C5501	1-107-888-11	ELECT	47µF	20%	25V
C5502	1-126-941-11	ELECT	470µF	20%	25V
C5503	1-104-665-11	ELECT	100µF	20%	25V
C5504	1-104-660-91	ELECT	47µF	20%	16V
C5505	1-126-964-11	ELECT	10µF	20%	50V
C5506	1-126-963-11	ELECT	4.7µF	20%	50V
C5507	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C5508	1-163-031-91	CERAMIC CHIP	0.01µF		50V
C5509	1-163-263-11	CERAMIC CHIP	330pF	5%	50V
C5511	1-126-933-11	ELECT	100µF	20%	16V
C5514	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C5518	1-129-709-61	FILM	0.0039µF	5%	630V
C5519	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C5522	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C5531	1-136-165-00	FILM	0.1µF	5%	50V
C5542	1-164-182-11	CERAMIC CHIP	0.0033µF	10%	50V
C5548	1-137-194-81	FILM	0.47µF	5%	50V
C5550	1-129-716-00	FILM	0.015µF	5%	200V
C5576	1-104-666-11	ELECT	220µF	20%	25V
C5577	1-104-666-11	ELECT	220µF	20%	25V
C5587	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C5588	1-136-153-00	FILM	0.01µF	5%	50V
C5590	1-163-263-11	CERAMIC CHIP	330pF	5%	50V
C5592	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C5594	1-136-165-00	FILM	0.1µF	5%	50V
C5596	1-126-960-11	ELECT	1µF	20%	50V
C5598	1-104-660-91	ELECT	47µF	20%	16V
C5600	1-104-660-91	ELECT	47µF	20%	16V
C5601	1-136-165-00	FILM	0.1µF	5%	50V
C5602	1-104-660-91	ELECT	47µF	20%	16V
C5603	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
C5605	1-136-177-00	FILM	1µF	5%	50V
C5607	1-115-185-11	CERAMIC CHIP	0.033µF	10%	50V
C5609	1-104-665-11	ELECT	100µF	20%	25V
C5610	1-126-935-11	ELECT	470µF	20%	16V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C5611	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C5612	1-126-964-11	ELECT	10µF	20%	50V
C5613	1-115-185-11	CERAMIC CHIP	0.033µF	10%	50V
C5614	1-126-964-11	ELECT	10µF	20%	50V
C5616	1-136-165-00	FILM	0.1µF	5%	50V
C5617	1-104-660-91	ELECT	47µF	20%	16V
C5618	1-136-171-00	FILM	0.33µF	5%	50V
C5619	1-163-127-00	CERAMIC CHIP	270pF	5%	50V
C5621	1-136-165-00	FILM	0.1µF	5%	50V
C5623	1-126-933-11	ELECT	100µF	20%	16V
C5625	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C5628	1-126-933-11	ELECT	100µF	20%	16V
C6503	1-131-940-11	ELECT	1200µF	20%	250V
C6504	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C6507	1-126-967-11	ELECT	47µF	20%	50V
C6508	1-104-664-11	ELECT	47µF	20%	25V
C6510	1-130-495-00	MYLAR	0.1µF	5%	50V
C6511	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C6516	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C6517	1-126-963-11	ELECT	4.7µF	20%	50V
C6518	1-136-479-11	FILM	0.001µF	2%	50V
C6519	1-126-964-11	ELECT	10µF	20%	50V
C6525	1-164-143-11	CERAMIC	0.001µF	10%	1KV
C6526	1-164-143-11	CERAMIC	0.001µF	10%	1KV
C6532	1-135-998-21	FILM	56000pF	3%	800V
C6544	1-107-855-12	ELECT(BLOCK)	330µF		160V
C6545	1-126-943-11	ELECT	2200µF	20%	25V
C6546	1-128-548-11	ELECT	4700µF	20%	25V
C6547	1-113-610-11	ELECT(BLOCK)	220µF	20%	250V
C6548	1-128-549-11	ELECT	3300µF	20%	35V
C6551	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C6561	1-126-960-11	ELECT	1µF	20%	50V
⚠ C6584	1-136-344-11	MYLAR	0.047µF	20%	125V
⚠ C6585	1-119-899-51	CERAMIC	1000pF	10%	250V
C6586	1-113-924-11	CERAMIC	.0047µF	20%	125V
C6587	1-113-924-11	CERAMIC	.0047µF	20%	125V
C6588	1-113-924-11	CERAMIC	.0047µF	20%	125V
C6589	1-113-924-11	CERAMIC	.0047µF	20%	125V
C6590	1-131-940-11	ELECT	1200µF	20%	250V
⚠ C6591	1-119-899-51	CERAMIC	1000pF	10%	250V
C6594	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C6595	1-104-665-11	ELECT	100µF	20%	25V
C6596	1-126-960-11	ELECT	1µF	20%	50V
C8002	1-136-169-00	FILM	0.22µF	5%	50V

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C8004	1-104-665-11	ELECT	100µF	20%	10V
C8005	1-104-664-11	ELECT	47µF	20%	25V
C8006	1-126-960-11	ELECT	1µF	20%	50V
C8007	1-137-150-11	MYLAR	0.01µF	5%	50V
C8009	1-126-964-11	ELECT	10µF	20%	50V
C8011	1-126-961-11	ELECT	2.2µF	20%	50V
C8012	1-126-966-11	ELECT	33µF	20%	50V
C8013	1-126-964-11	ELECT	10µF	20%	50V
C8014	1-126-964-11	ELECT	10µF	20%	50V
C8015	1-126-966-11	ELECT	33µF	20%	50V
C8016	1-130-495-00	MYLAR	0.1µF	5%	50V
C8017	1-126-964-11	ELECT	10µF	20%	50V
C8018	1-126-964-11	ELECT	10µF	20%	50V
C8019	1-104-665-11	ELECT	100µF	20%	10V
C8020	1-136-103-00	FILM	0.1µF	5%	200V
C8021	1-137-150-11	MYLAR	0.01µF	5%	50V
C8022	1-126-933-11	ELECT	100µF	20%	16V
C8023	1-113-611-11	ELECT(BLOCK)	820µF	20%	250V
C8024	1-126-967-11	ELECT	47µF	20%	50V
C8025	1-104-664-11	ELECT	47µF	20%	25V
C8027	1-130-495-00	MYLAR	0.1µF	5%	50V
C8028	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C8030	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C8031	1-128-551-11	ELECT	22µF	20%	25V
C8032	1-136-813-11	FILM	680pF	2%	50V
C8033	1-126-964-11	ELECT	10µF	20%	50V
C8035	1-125-969-91	CERAMIC	680pF	10%	1KV
C8036	1-125-969-91	CERAMIC	680pF	10%	1KV
C8037	1-135-946-21	FILM	47000pF	3%	800V
C8039	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C8040	1-126-969-11	ELECT	220µF	20%	50V
C8041	1-137-194-81	FILM	0.47µF	5%	50V
C8042	1-136-103-00	FILM	0.1µF	5%	200V
C8045	1-130-471-00	MYLAR	0.001µF	5%	50V
C8046	1-162-131-11	CERAMIC	220pF	10%	2KV
C8047	1-107-444-11	CERAMIC	100pF	10%	2KV
C8048	1-130-495-00	MYLAR	0.1µF	5%	50V
C8050	1-129-718-61	FILM	0.022µF	5%	630V
C8051	1-126-964-11	ELECT	10µF	20%	50V
C8053	1-162-117-00	CERAMIC	100pF	10%	500V
C8054	1-102-244-00	CERAMIC	220pF	10%	500V
C8055	1-136-535-61	FILM	0.0018µF	5%	630V
C8056	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C8058	1-137-194-81	FILM	0.47µF	5%	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C8059	1-104-664-11	ELECT	47µF	20%	10V
C8060	1-107-635-11	ELECT	4.7µF	20%	160V
C8063	1-136-203-11	MYLAR	0.01µF	10%	630V

CONNECTOR

*	CN5002	1-580-798-11	CONNECTOR PIN (DY)	6P
*	CN5003	1-766-242-11	PIN,CONNECTOR (PC BOARD)	4P
*	CN5501	1-779-889-11	CONNECTOR, BOARD TO BOARD	8P
*	CN5503	1-779-890-11	CONNECTOR, BOARD TO BOARD	10P
*	CN5505	1-779-890-11	CONNECTOR, BOARD TO BOARD	10P
	CN5506	1-573-979-21	CONNECTOR, BOARD TO BOARD	11P
*	CN5509	1-564-515-11	PLUG,CONNECTOR	12P
*	CN5510	1-564-506-11	PLUG,CONNECTOR	3P
*	CN6501	1-766-176-11	PIN,CONNECTOR (PC BOARD)	6P
*	CN6502	1-766-240-11	PIN,CONNECTOR (PC BOARD)	2P
*	CN6503	1-564-511-11	PLUG,CONNECTOR	8P
*	CN6504	1-779-889-11	CONNECTOR, BOARD TO BOARD	8P
*	CN6505	1-779-889-11	CONNECTOR, BOARD TO BOARD	8P
*	CN6506	1-779-889-11	CONNECTOR, BOARD TO BOARD	8P

DIODE

D5001	8-719-109-85	DIODE MTZJ-T-77-5.1B
D5002	8-719-908-03	DIODE GP08DPKG23
D5003	8-719-920-67	DIODE ERC91-02E
D5004	8-719-158-49	DIODE UDZ-TE-17-12B
D5005	8-719-404-50	DIODE MA111-TX
D5006	8-719-109-72	DIODE MTZJ-T-77-3.9B
D5007	8-719-109-50	DIODE MTZJ-T-77-2.0A
D5008	8-719-404-50	DIODE MA111-TX
D5009	8-719-404-50	DIODE MA111-TX
D5010	8-719-404-50	DIODE MA111-TX
D5011	8-719-109-63	DIODE MTZJ-T-77-3.0B
D5012	8-719-018-82	DIODE RGP02-20EL-6394
D5013	8-719-302-43	DIODE RGP10GPKG23
D5014	8-719-510-37	DIODE D5LC20U
D5015	8-719-302-43	DIODE RGP10GPKG23
D5016	8-719-920-67	DIODE ERC91-02E
D5017	8-719-920-67	DIODE ERC91-02E
D5018	8-719-110-41	DIODE MTZJ-T-77-15B
D5019	8-719-404-50	DIODE MA111-TX
D5021	8-719-404-50	DIODE MA111-TX
D5023	8-719-061-21	DIODE PG124S15
D5024	8-719-510-02	DIODE D1NS4-TR

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	REF.NO.	PART NO.	DESCRIPTION	VALUES
	D5025	8-719-510-02	DIODE D1NS4-TR	
	D5026	8-719-404-50	DIODE MA111-TX	
	D5027	8-719-404-50	DIODE MA111-TX	
	D5028	8-719-404-50	DIODE MA111-TX	
	D5029	8-719-404-50	DIODE MA111-TX	
	D5031	8-719-977-28	DIODE UDZSTE-1710B	
	D5032	8-719-404-50	DIODE MA111-TX	
	D5501	8-719-404-50	DIODE MA111-TX	
	D5502	8-719-404-50	DIODE MA111-TX	
	D5503	8-719-404-50	DIODE MA111-TX	
	D5505	8-719-800-76	DIODE MA153-TX	
	D5506	8-719-404-50	DIODE MA111-TX	
	D5507	8-719-800-76	DIODE MA153-TX	
	D5513	8-719-991-33	DIODE 1SS133T-77	
	D5514	8-719-063-70	DIODE D1NL20U-TA2	
	D5515	8-719-063-70	DIODE D1NL20U-TA2	
	D5522	8-719-923-78	DIODE MTZJ-T-77-12	
	D5523	8-719-923-78	DIODE MTZJ-T-77-12	
	D6501	8-719-404-50	DIODE MA111-TX	
	D6502	8-719-979-64	DIODE µF4005PKG23	
	D6507	1-216-295-91	SHORT	
	D6508	8-719-982-27	DIODE MTZJ-T-77-33C	
	D6509	8-719-068-00	DIODE ERC04-06SE	
	D6510	8-719-068-00	DIODE ERC04-06SE	
	D6513	8-719-500-71	DIODE D8LC40F	
⚠	D6514	8-719-060-89	DIODE D4SBS6-F	
	D6515	8-719-060-90	DIODE S2L60F	
	D6516	8-719-060-89	DIODE D4SBS6-F	
	D6517	8-719-060-90	DIODE S2L60F	
	D6522	8-719-404-50	DIODE MA111-TX	
	D6530	8-719-022-99	DIODE D6SB60L	
	D6531	8-719-404-50	DIODE MA111-TX	
	D6532	8-719-948-45	DIODE ERA22-08TP3	
	D6533	8-719-404-50	DIODE MA111-TX	
	D6537	8-719-404-50	DIODE MA111-TX	
	D8002	8-719-404-50	DIODE MA111-TX	
	D8003	8-719-404-50	DIODE MA111-TX	
⚠	D8004	8-719-109-85	DIODE MTZJ-T-77-5.1B	
	D8005	8-719-404-50	DIODE MA111-TX	
	D8006	8-719-921-89	DIODE MTZJ-T-77-13C	
	D8007	8-719-404-50	DIODE MA111-TX	
	D8009	8-719-404-50	DIODE MA111-TX	
	D8010	8-719-052-90	DIODE D1NL40-TA2	
⚠	D8013	8-719-063-70	DIODE D1NL20U-TA2	
	D8014	8-719-302-43	DIODE RGP10GPKG23	
	D8016	8-719-948-45	DIODE ERA22-08TP3	
	D8017	8-719-948-45	DIODE ERA22-08TP3	
	D8018	8-719-052-90	DIODE D1NL40-TA2	
⚠	D8019	8-719-110-41	DIODE MTZJ-T-77-15B	
	D8020	8-719-404-50	DIODE MA111-TX	
	D8021	8-719-404-50	DIODE MA111-TX	
	D8022	8-719-404-50	DIODE MA111-TX	
	D8025	8-719-982-26	DIODE MTZJ-T-77-33B	
	D8026	8-719-404-50	DIODE MA111-TX	
	D8027	8-719-404-50	DIODE MA111-TX	
	D8028	8-719-991-33	DIODE 1SS133T-77	
⚠	D8050	8-719-923-86	DIODE MTZJ-T-77-15	
⚠	D8051	8-719-923-86	DIODE MTZJ-T-77-15	
			FERRITE BEAD	
	FB5001	1-410-397-21	FERRITE	1.1µH
	FB5002	1-543-298-11	FERRITE	0µH
	FB6501	1-410-397-21	FERRITE	1.1µH
	FB6502	1-410-396-41	FERRITE	0.45µH
	FB6504	1-410-397-21	FERRITE	1.1µH
	FB6505	1-412-911-11	FERRITE	0µH
	FB6506	1-412-911-11	FERRITE	0µH
	FB6508	1-410-396-41	FERRITE	0.45µH
	FB6509	1-410-396-41	FERRITE	0.45µH
	FB8001	1-410-396-41	FERRITE	0.45µH
			IC	
	IC5001	8-759-701-01	IC NJM2904M(TE2)	
	IC5002	8-759-700-07	IC NJM2903M-TE2	
	IC5003	8-759-518-68	IC PQ12RF21	
⚠	IC5004	8-759-192-71	IC STV9379	
⚠	IC5005	8-759-803-42	IC LA6500-FA	
	IC5006	8-749-013-76	IC PQ6RD83B	
	IC5007	8-759-981-61	IC NJM2901M-TE2	
	IC5008	8-759-675-90	IC BA51W12ST-V5	
	IC5501	6-700-149-01	IC M24C04-MN6T(A)	
	IC5502	8-759-981-61	IC NJM2901M-TE2	
	IC5504	8-759-803-42	IC LA6500-FA	
	IC5506	8-759-803-42	IC LA6500-FA	
⚠	IC5510	8-759-803-42	IC LA6500-FA	
	IC5511	8-752-074-64	IC CXA2026AS	
	IC5512	8-759-929-65	IC NJM79M12FA	

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	REF.NO.	PART NO.	DESCRIPTION	VALUES
	IC5513	8-759-595-52	IC CXA8070AP	
⚠	IC5514	8-759-803-42	IC LA6500-FA	
	IC5515	8-749-016-08	IC STK390-910	
⚠	IC6501	8-759-670-30	IC MCZ3001D	
	IC6503	8-749-012-13	IC DM-58	
	IC6505	8-749-921-86	IC SE-140N	
	IC8001	8-759-981-61	IC NJM2901M-TE2	
⚠	IC8002	8-759-670-30	IC MCZ3001D	
	IC8003	8-759-198-31	IC UPC1093J-1-T	
	IC8004	8-759-701-01	IC NJM2904M(TE2)	
			CHIP CONDUCTOR	
	JR5006	1-216-295-91	SHORT	
	JR5007	1-216-295-91	SHORT	
	JR5010	1-216-295-91	SHORT	
	JR6501	1-216-295-91	SHORT	
	JR8001	1-216-295-91	SHORT	
	JR8002	1-216-295-91	SHORT	
	JR8003	1-216-295-91	SHORT	
	JR8004	1-216-295-91	SHORT	
	JR8005	1-216-295-91	SHORT	
	JR8006	1-216-295-91	SHORT	
	JR8007	1-216-295-91	SHORT	
	JR8050	1-216-295-91	SHORT	
			COIL	
	L5001	1-406-665-11	INDUCTOR	100µH
	L5002	1-406-663-21	INDUCTOR	47µH
	L5003	1-406-892-21	INDUCTOR	4MH
	L5004	1-412-525-31	INDUCTOR	10µH
	L5005	1-419-181-11	COIL, HORIZONTAL LINEARITY	
	L5504	1-406-989-21	INDUCTOR	10MH
	L5505	1-406-989-21	INDUCTOR	10MH
	L5601	1-408-612-31	INDUCTOR	56µH
	L6503	1-412-525-31	INDUCTOR	10µH
	L6504	1-412-525-31	INDUCTOR	10µH
	L6505	1-406-665-11	INDUCTOR	100µH
	L8001	1-406-670-11	INDUCTOR	680µH
	L8002	1-419-658-11	INDUCTOR	107µH
	L8005	1-406-674-11	INDUCTOR	3.3MH
			PHOTO COUPLER	
	PH6501	8-749-924-35	PHOTO COUPLER	ON3171-R
⚠	PH6502	8-749-924-35	PHOTO COUPLER	ON3171-R
⚠	PH6503	8-749-924-35	PHOTO COUPLER	ON3171-R
	PH8001	8-749-924-35	PHOTO COUPLER	ON3171-R
			IC LINK	
⚠	PS6501	1-576-390-91	LINK, IC	
⚠	PS6502	1-576-390-91	LINK, IC	
			TRANSISTOR	
	Q5001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5002	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
⚠	Q5003	8-729-015-28	TRANSISTOR IRFI9630G	
	Q5004	8-729-019-57	TRANSISTOR 2SA1208S-TP	
	Q5005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5006	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5007	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q5008	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q5011	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5012	8-729-119-80	TRANSISTOR 2SC2688-LK	
	Q5013	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q5014	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
⚠	Q5015	8-729-119-80	TRANSISTOR 2SC2688-LK	
⚠	Q5016	8-729-119-80	TRANSISTOR 2SC2688-LK	
	Q5017	8-729-119-80	TRANSISTOR 2SC2688-LK	
	Q5018	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5019	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5020	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q5021	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5022	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q5023	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5026	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5027	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q5028	8-729-322-27	TRANSISTOR 2SK2182	
⚠	Q5030	8-729-052-71	TRANSISTOR 2SC3997S-SONY-RA	
	Q5031	8-729-053-24	TRANSISTOR 2SK3262-01MR	
	Q5033	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
	Q5034	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5035	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5036	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5037	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5501	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q5502	1-801-806-11	TRANSISTOR DTC144EKA-T146	
	Q5503	1-801-806-11	TRANSISTOR DTC144EKA-T146	
	Q5504	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	

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REF.NO.	PART NO.	DESCRIPTION	VALUES
Q5505	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q5506	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5507	8-729-931-45	TRANSISTOR IRF614	
Q5508	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q5509	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6503	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
⚠ Q6506	8-729-052-32	TRANSISTOR IRFIB7N50A-LF31	
⚠ Q6507	8-729-052-32	TRANSISTOR IRFIB7N50A-LF31	
Q6520	8-729-019-57	TRANSISTOR 2SA1208S-TP	
Q6521	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q6522	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA	
Q6524	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA	
Q6526	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6527	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q6528	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6529	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6530	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q6531	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q6532	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8002	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8003	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8004	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8007	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8008	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8009	8-729-200-17	TRANSISTOR 2SA1091O-TPE2	
Q8010	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
⚠ Q8013	8-729-044-42	TRANSISTOR IRFI644G-LF36	
⚠ Q8014	8-729-044-42	TRANSISTOR IRFI644G-LF36	
Q8015	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q8016	8-729-045-65	TRANSISTOR 2SA1776TV2Q	
Q8018	8-729-043-95	TRANSISTOR 2SC3840K	
Q8019	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q8020	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q8022	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX	
Q8023	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	

RESISTOR

R5001	1-216-001-00	RES-CHIP	10	5%	1/10W
R5002	1-216-033-00	RES-CHIP	220	5%	1/10W
R5003	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5004	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5005	1-216-033-00	RES-CHIP	220	5%	1/10W
R5007	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5008	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5009	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5011	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5012	1-208-814-91	METAL CHIP	22K	0.50%	1/10W
R5013	1-216-393-00	METAL OXIDE	2.2	5%	3W
R5014	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R5016	1-208-832-11	METAL CHIP	120K	0.50%	1/10W
R5017	1-208-832-11	METAL CHIP	120K	0.50%	1/10W
R5018	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5019	1-249-429-11	CARBON	10K	5%	1/4W
R5020	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R5021	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R5022	1-208-816-11	METAL CHIP	27K	0.50%	1/10W
R5023	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5024	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5025	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R5026	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5027	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R5028	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R5029	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5030	1-216-295-91	SHORT			
R5031	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R5033	1-216-025-11	RES-CHIP	100	5%	1/10W
R5036	1-216-085-91	RES-CHIP	33K	5%	1/10W
R5037	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5038	1-216-075-00	RES-CHIP	12K	5%	1/10W
R5039	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5040	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5041	1-249-383-11	CARBON	1.5	5%	1/4W
R5042	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5043	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5044	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5045	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5046	1-214-798-21	METAL	1.8	1%	1/2W
R5047	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5048	1-208-802-11	METAL CHIP	6.8K	0.50%	1/10W
R5049	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5050	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5051	1-249-414-11	CARBON	560	5%	1/4W
R5052	1-214-796-00	METAL	1.5	1%	1/2W
R5053	1-215-890-11	METAL OXIDE	470	5%	2W
R5054	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5055	1-216-073-91	RES-CHIP	10K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R5056	1-216-105-91	RES-CHIP	220K	5%	1/10W
R5057	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5058	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5059	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5063	1-208-813-11	METAL CHIP	20K	0.50%	1/10W
R5064	1-218-761-11	METAL CHIP	240K	0.50%	1/10W
R5065	1-218-761-11	METAL CHIP	240K	0.50%	1/10W
R5066	1-208-792-11	METAL CHIP	2.7K	0.50%	1/10W
R5067	1-208-794-11	METAL CHIP	3.3K	0.50%	1/10W
R5068	1-216-105-91	RES-CHIP	220K	5%	1/10W
R5069	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5070	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5071	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5072	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5073	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5074	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5075	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5076	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5077	1-208-816-11	METAL CHIP	27K	0.50%	1/10W
R5078	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5079	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5080	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5081	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5082	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R5083	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R5084	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5085	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5086	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5087	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5088	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5089	1-216-372-11	METAL OXIDE	1.8	5%	2W
R5090	1-216-372-11	METAL OXIDE	1.8	5%	2W
⚠ R5091	1-249-389-11	CARBON	4.7	5%	1/4W
R5092	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5093	1-208-807-11	METAL CHIP	11K	0.50%	1/10W
R5094	1-215-869-11	METAL OXIDE	1K	5%	1W
⚠ R5095	1-249-443-11	CARBON	0.47	5%	1/4W
⚠ R5096	1-249-443-11	CARBON	0.47	5%	1/4W
⚠ R5097	1-249-380-11	CARBON	0.82	5%	1/4W
⚠ R5098	1-249-379-11	CARBON	0.68	5%	1/4W
R5101	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5102	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R5103	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R5104	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5105	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5106	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5107	1-249-401-11	CARBON	47	5%	1/4W
R5108	1-208-819-11	METAL CHIP	36K	0.50%	1/10W
R5109	1-208-808-11	METAL CHIP	12K	0.50%	1/10W
R5110	1-249-401-11	CARBON	47	5%	1/4W
R5111	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5112	1-216-033-00	RES-CHIP	220	5%	1/10W
R5113	1-249-425-11	CARBON	4.7K	5%	1/4W
R5114	1-249-425-11	CARBON	4.7K	5%	1/4W
R5115	1-249-417-11	CARBON	1K	5%	1/4W
R5116	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5117	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R5120	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5121	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5122	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5123	1-216-295-91	SHORT			
R5124	1-216-295-91	SHORT			
R5125	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5126	1-216-025-11	RES-CHIP	100	5%	1/10W
R5127	1-215-890-11	METAL OXIDE	470	5%	2W
R5128	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5129	1-216-025-11	RES-CHIP	100	5%	1/10W
R5130	1-249-401-11	CARBON	47	5%	1/4W
R5131	1-208-794-11	METAL CHIP	3.3K	0.50%	1/10W
R5132	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5133	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5134	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5135	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5136	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5137	1-216-481-11	METAL OXIDE	1.2K	5%	3W
R5138	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5139	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5140	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5141	1-215-915-11	METAL OXIDE	470	5%	3W
R5142	1-216-386-11	METAL OXIDE	0.56	5%	3W
R5143	1-216-385-11	METAL OXIDE	0.47	5%	3W
R5144	1-216-385-11	METAL OXIDE	0.47	5%	3W
R5145	1-215-880-00	METAL OXIDE	10	5%	2W
R5146	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5147	1-208-794-11	METAL CHIP	3.3K	0.50%	1/10W
R5148	1-215-865-11	METAL OXIDE	220	5%	1W
R5149	1-216-065-91	RES-CHIP	4.7K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R5150	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5151	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5152	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5153	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5154	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5155	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5156	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5157	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5158	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5159	1-216-025-11	RES-CHIP	100	5%	1/10W
R5160	1-216-025-11	RES-CHIP	100	5%	1/10W
R5161	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5163	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R5164	1-260-288-11	CARBON	0.47	5%	1/2W
R5501	1-216-033-00	RES-CHIP	220	5%	1/10W
R5502	1-216-295-91	SHORT			
R5503	1-216-017-91	RES-CHIP	47	5%	1/10W
R5504	1-208-840-11	METAL CHIP	270K	0.50%	1/10W
R5505	1-208-840-11	METAL CHIP	270K	0.50%	1/10W
R5506	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5507	1-216-017-91	RES-CHIP	47	5%	1/10W
R5508	1-216-025-11	RES-CHIP	100	5%	1/10W
R5509	1-216-025-11	RES-CHIP	100	5%	1/10W
R5510	1-216-025-11	RES-CHIP	100	5%	1/10W
R5511	1-216-295-91	SHORT			
R5512	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5513	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5514	1-216-295-91	SHORT			
R5516	1-208-792-11	METAL CHIP	2.7K	0.50%	1/10W
R5518	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R5519	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R5520	1-208-816-11	METAL CHIP	27K	0.50%	1/10W
R5521	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5522	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5523	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R5525	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R5526	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5527	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5528	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5529	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5530	1-216-025-11	RES-CHIP	100	5%	1/10W
R5531	1-216-001-00	RES-CHIP	10	5%	1/10W
R5532	1-216-001-00	RES-CHIP	10	5%	1/10W
R5535	1-208-806-11	METAL CHIP	10K	0.50%	1/10W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R5536	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R5544	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R5545	1-208-818-11	METAL CHIP	33K	0.50%	1/10W
R5547	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5548	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5554	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R5563	1-208-801-11	METAL CHIP	6.2K	0.50%	1/10W
R5564	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5565	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5573	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5576	1-249-395-11	CARBON	15	5%	1/4W
R5577	1-208-836-11	METAL CHIP	180K	0.50%	1/10W
R5578	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R5579	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5581	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R5585	1-208-846-11	METAL CHIP	470K	0.50%	1/10W
R5588	1-216-353-00	METAL OXIDE	2.2	5%	1W
R5599	1-216-073-91	RES-CHIP	10K	5%	1/10W
⚠ R5615	1-249-395-11	CARBON	15	5%	1/4W
R5623	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5645	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5647	1-208-758-11	METAL CHIP	100	0.50%	1/10W
R5648	1-216-385-11	METAL OXIDE	0.47	5%	3W
R5649	1-215-886-11	METAL OXIDE	100	5%	2W
R5650	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5657	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5666	1-216-091-00	RES-CHIP	56K	5%	1/10W
R5669	1-208-789-11	METAL CHIP	2K	0.50%	1/10W
R5670	1-208-820-11	METAL CHIP	39K	0.50%	1/10W
R5672	1-216-109-00	RES-CHIP	330K	5%	1/10W
R5678	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
⚠ R5679	1-249-395-11	CARBON	15	5%	1/4W
R5680	1-249-383-11	CARBON	1.5	5%	1/4W
R5684	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5685	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R5686	1-208-778-11	METAL CHIP	680	0.50%	1/10W
R5688	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R5689	1-216-017-91	RES-CHIP	47	5%	1/10W
R5690	1-216-017-91	RES-CHIP	47	5%	1/10W
R5692	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R5693	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5694	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R5696	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
R5697	1-208-764-11	METAL CHIP	180	0.50%	1/10W

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	R5698	1-208-801-11	METAL CHIP	6.2K	0.50%	1/10W
	R5699	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R5700	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
	R5702	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
	R5704	1-214-657-11	METAL	1	1%	1/4W
	R5705	1-214-657-11	METAL	1	1%	1/4W
	R5707	1-216-017-91	RES-CHIP	47	5%	1/10W
	R5708	1-216-429-00	METAL OXIDE	270	5%	1W
	R5709	1-216-017-91	RES-CHIP	47	5%	1/10W
	R5710	1-216-429-00	METAL OXIDE	270	5%	1W
	R5711	1-260-288-11	CARBON	0.47	5%	1/2W
	R5712	1-260-288-11	CARBON	0.47	5%	1/2W
	R5713	1-215-867-00	METAL OXIDE	470	5%	1W
	R5714	1-216-097-11	RES-CHIP	100K	5%	1/10W
	R5715	1-216-097-11	RES-CHIP	100K	5%	1/10W
	R5716	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R5717	1-216-093-91	RES-CHIP	68K	5%	1/10W
	R6501	1-208-757-11	METAL CHIP	91	0.50%	1/10W
	R6502	1-260-131-11	CARBON	470K	5%	1/2W
	R6503	1-208-758-11	METAL CHIP	100	0.50%	1/10W
	R6504	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6506	1-249-377-11	CARBON	0.47	5%	1/4W
	R6507	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
	R6508	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6509	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
	R6510	1-215-859-00	METAL OXIDE	22	5%	1W
	R6511	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6512	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6513	1-215-481-00	METAL	330K	1%	1/4W
	R6514	1-215-481-00	METAL	330K	1%	1/4W
	R6515	1-260-131-11	CARBON	470K	5%	1/2W
⚠	R6516	1-202-962-11	CEMENTED	3.3	5%	10W
	R6517	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
	R6518	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
	R6519	1-216-295-91	SHORT			
	R6521	1-260-328-11	CARBON	1K	5%	1/2W
	R6522	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6523	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R6524	1-216-295-91	SHORT			
	R6525	1-216-041-00	RES-CHIP	470	5%	1/10W
⚠	R6526	1-202-933-61	FUSIBLE	0.1	10%	1/2W
	R6527	1-216-093-91	RES-CHIP	68K	5%	1/10W
	R6528	1-216-025-11	RES-CHIP	100	5%	1/10W
	R6529	1-249-393-11	CARBON	10	5%	1/4W
	R6530	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
	R6531	1-249-393-11	CARBON	10	5%	1/4W
	R6532	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6533	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6534	1-216-085-91	RES-CHIP	33K	5%	1/10W
	R6535	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6536	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6537	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6538	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6539	1-215-900-11	METAL OXIDE	22K	5%	2W
	R6540	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R6541	1-216-077-91	RES-CHIP	15K	5%	1/10W
	R6542	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R6543	1-208-842-11	METAL CHIP	330K	0.50%	1/10W
	R6544	1-216-295-91	SHORT			
	R6547	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
	R6550	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
	R6552	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R6553	1-216-109-00	RES-CHIP	330K	5%	1/10W
	R6556	1-217-625-00	METAL	0.05	10%	2W
	R6557	1-216-097-11	RES-CHIP	100K	5%	1/10W
	R6583	1-216-077-91	RES-CHIP	15K	5%	1/10W
⚠	R6590	1-249-415-11	CARBON	680	5%	1/4W
	R6591	1-216-341-11	METAL OXIDE	0.22	5%	1W
⚠	R6593	1-249-405-11	CARBON	100	5%	1/4W
	R6596	1-215-445-00	METAL	10K	1%	1/4W
	R6597	1-215-469-00	METAL	100K	1%	1/4W
	R6598	1-216-342-21	METAL OXIDE	0.27	5%	1W
	R6599	1-249-417-11	CARBON	1K	5%	1/4W
	R6600	1-215-445-00	METAL	10K	1%	1/4W
	R6602	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R6603	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6604	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R6605	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
	R6612	1-216-089-91	RES-CHIP	47K	5%	1/10W
	R6614	1-260-298-51	CARBON	3.3	5%	1/2W
	R6646	1-215-481-00	METAL	330K	1%	1/4W
	R8001	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R8002	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
	R8003	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R8004	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R8005	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R8006	1-216-105-91	RES-CHIP	220K	5%	1/10W
	R8007	1-216-089-91	RES-CHIP	47K	5%	1/10W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	R8008	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R8009	1-216-105-91	RES-CHIP	220K	5%	1/10W
	R8010	1-216-105-91	RES-CHIP	220K	5%	1/10W
	R8011	1-216-105-91	RES-CHIP	220K	5%	1/10W
	R8013	1-216-295-91	SHORT			
	R8016	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
	R8017	1-216-295-91	SHORT			
	R8018	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R8019	1-216-089-91	RES-CHIP	47K	5%	1/10W
	R8020	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R8021	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R8022	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R8023	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R8024	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R8025	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
	R8026	1-216-105-91	RES-CHIP	220K	5%	1/10W
	R8027	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
	R8028	1-208-818-11	METAL CHIP	33K	0.50%	1/10W
	R8029	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
	R8030	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
	R8031	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
	R8032	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R8033	1-208-781-11	METAL CHIP	910	0.50%	1/10W
	R8034	1-216-091-00	RES-CHIP	56K	5%	1/10W
⚠	R8035	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
⚠	R8036	1-215-444-00	METAL	9.1K	1%	1/4W
⚠	R8037	1-215-444-00	METAL	9.1K	1%	1/4W
⚠	R8038	1-215-444-00	METAL	9.1K	1%	1/4W
⚠	R8039	1-215-444-00	METAL	9.1K	1%	1/4W
⚠	R8040	1-215-444-00	METAL	9.1K	1%	1/4W
	R8041	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
	R8042	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
	R8043	1-216-349-00	METAL OXIDE	1	5%	1W
	R8044	1-208-837-11	METAL CHIP	200K	0.50%	1/10W
	R8047	1-216-097-11	RES-CHIP	100K	5%	1/10W
	R8049	1-208-758-11	METAL CHIP	100	0.50%	1/10W
	R8050	1-211-964-11	METAL CHIP	33	0.50%	1/10W
⚠	R8051	1-220-926-11	FUSIBLE	0.47	10%	1/2W
	R8053	1-208-842-11	METAL CHIP	330K	0.50%	1/10W
	R8054	1-208-842-11	METAL CHIP	330K	0.50%	1/10W
	R8055	1-208-842-11	METAL CHIP	330K	0.50%	1/10W
	R8056	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
	R8057	1-208-809-11	METAL CHIP	13K	0.50%	1/10W
	R8058	1-249-393-11	CARBON	10	5%	1/4W

	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	R8059	1-216-295-91	SHORT			
	R8060	1-208-774-11	METAL CHIP	470	0.50%	1/10W
	R8061	1-249-393-11	CARBON	10	5%	1/4W
⚠	R8062	1-216-073-91	RES-CHIP	10K	5%	1/10W
⚠	R8063	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R8065	1-216-089-91	RES-CHIP	47K	5%	1/10W
	R8066	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R8068	1-216-295-91	SHORT			
	R8069	1-249-419-11	CARBON	1.5K	5%	1/4W
	R8070	1-217-611-00	METAL	0.1	10%	2W
	R8071	1-216-073-91	RES-CHIP	10K	5%	1/10W
	R8072	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
	R8073	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
	R8074	1-208-793-11	METAL CHIP	3K	0.50%	1/10W
	R8077	1-208-838-91	METAL CHIP	220K	0.50%	1/10W
	R8078	1-208-838-91	METAL CHIP	220K	0.50%	1/10W
	R8080	1-249-431-11	CARBON	15K	5%	1/4W
⚠	R8081	1-249-377-11	CARBON	0.47	5%	1/4W
	R8082	1-216-133-91	RES-CHIP	3.3M	5%	1/10W
	R8085	1-219-749-91	CARBON	10K	5%	1/2W
	R8086	1-219-751-91	CARBON	47K	5%	1/2W
	R8087	1-216-295-91	SHORT			
	R8089	1-216-089-91	RES-CHIP	47K	5%	1/10W
	R8091	1-215-485-00	METAL	470K	1%	1/4W
	R8093	1-216-101-00	RES-CHIP	150K	5%	1/10W
	R8095	1-215-485-00	METAL	470K	1%	1/4W
	R8096	1-216-295-91	SHORT			
	R8098	1-249-441-11	CARBON	100K	5%	1/4W
	R8099	1-249-441-11	CARBON	100K	5%	1/4W
	R8100	1-249-441-11	CARBON	100K	5%	1/4W
	R8101	1-216-101-00	RES-CHIP	150K	5%	1/10W
	R8102	1-216-081-00	RES-CHIP	22K	5%	1/10W
	R8103	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
	R8104	1-216-089-91	RES-CHIP	47K	5%	1/10W
	R8108	1-216-097-11	RES-CHIP	100K	5%	1/10W
	R8109	1-215-922-11	METAL OXIDE	6.8K	5%	3W
	R8111	1-215-922-11	METAL OXIDE	6.8K	5%	3W
	R8112	1-216-097-11	RES-CHIP	100K	5%	1/10W
	R8113	1-216-117-00	RES-CHIP	680K	5%	1/10W
	R8114	1-215-922-11	METAL OXIDE	6.8K	5%	3W
	R8115	1-216-049-11	RES-CHIP	1K	5%	1/10W
	R8116	1-216-486-21	METAL OXIDE	8.2K	5%	3W
	R8117	1-216-097-11	RES-CHIP	100K	5%	1/10W
	R8118	1-216-085-91	RES-CHIP	33K	5%	1/10W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

A component identified by this ⋈ symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

D HB HA

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R8119	1-216-486-21	METAL OXIDE	8.2K	5%	3W
R8123	1-216-025-11	RES-CHIP	100	5%	1/10W
R8124	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8125	1-216-001-00	RES-CHIP	10	5%	1/10W
R8126	1-216-001-00	RES-CHIP	10	5%	1/10W
⚠ R8127	1-216-295-91	SHORT			
⚠ R8137	1-249-417-11	CARBON	1K	5%	1/4W
R8144	1-216-025-11	RES-CHIP	100	5%	1/10W
R8145	1-216-025-11	RES-CHIP	100	5%	1/10W
R8146	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8147	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R8148	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R8149	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R8150	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8151	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8152	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8199	1-249-389-11	CARBON	4.7	5%	1/4W
VARIABLE RESISTOR					
⚠⋈ RV8001	1-225-630-91	RES, VAR, ADJ, CERMET	20K		
⚠⋈ RV8002	1-225-627-91	RES, VAR, ADJ, CERMET	2K		
RELAY					
⚠ RY6501	1-755-395-11	RELAY (AC POWER)			
⚠ RY6502	1-755-214-11	RELAY, AC POWER			
SPARK GAP					
SG8002	1-517-499-21	GAP, SPARK			
SG8005	1-517-499-21	GAP, SPARK			
TRANSFORMER					
⚠ T5001	1-435-621-11	TRANSFORMER, HORIZONTAL OUTPUT			
T5002	1-435-636-11	TRANSFORMER, HORIZONTAL DRIVE			
⚠ T6501	1-435-576-12	TRANSFORMER, CONVERTER (PIT)			
⚠ T8001	1-453-346-11	FBT ASSY NX-6000//J1J4			
T8002	1-433-934-11	TRANSFORMER, FERRITE (DFT)			
THERMISTOR					
TH5001	1-800-193-00	THERMISTOR			
TH5002	1-807-796-11	THERMISTOR			

HB

REF.NO.	PART NO.	DESCRIPTION	VALUES		
*	**A-1372-904-A**	**HB (COM) BOARD, MOUNTED**			
CAPACITOR					
C4504	1-126-964-11	ELECT	10µF	20%	50V
C4505	1-126-964-11	ELECT	10µF	20%	50V
CONNECTOR					
CN4503	1-764-334-11	PLUG,CONNECTOR	11P		
DIODE					
D4503	8-719-977-28	DIODE UDZSTE-1710B			
D4505	8-719-977-28	DIODE UDZSTE-1710B			
D4506	8-719-977-28	DIODE UDZSTE-1710B			
FILTER					
FL4501	1-239-583-21	FILTER, EMI			
FL4502	1-239-583-21	FILTER, EMI			
FL4503	1-239-583-21	FILTER, EMI			
JACK					
J4501	1-770-053-11	TERMINAL BLOCK, S(LIGHT ANGLE)			
RESISTOR					
R4506	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4507	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4509	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4511	1-216-295-91	SHORT			
R4512	1-216-295-91	SHORT			
R4513	1-216-295-91	SHORT			

HA

REF.NO.	PART NO.	DESCRIPTION	VALUES		
*	**A-1372-970-A**	**HA BOARD, MOUNTED**			
CAPACITOR					
C05	1-126-964-11	ELECT	10µF	20%	50V
CONNECTOR					
CN01	*1-564-515-11	PLUG,CONNECTOR	12P		

HA U

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	DIODE				
D01	8-719-074-84	DIODE LNK0120022G1			
D02	8-719-074-84	DIODE LNK0120022G1			
D07	8-719-109-89	DIODE RD5.6ES-T1B2			
	IC				
IC01	8-742-212-20	HYB IC SBX3081-71			
	RESISTOR				
R03	1-249-429-11	CARBON	10K	5%	1/4W
R05	1-247-807-31	CARBON	100	5%	1/4W
R07	1-249-409-11	CARBON	220	5%	1/4W
R08	1-249-409-11	CARBON	220	5%	1/4W
R09	1-249-433-11	CARBON	22K	5%	1/4W
R12	1-215-445-00	METAL	10K	1%	1/4W
R14	1-215-437-00	METAL	4.7K	1%	1/4W
R15	1-215-431-00	METAL	2.7K	1%	1/4W
R16	1-215-427-00	METAL	1.8K	1%	1/4W
R17	1-215-425-00	METAL	1.5K	1%	1/4W
R18	1-215-421-00	METAL	1K	1%	1/4W
R19	1-215-419-00	METAL	820	1%	1/4W
R20	1-215-415-00	METAL	560	1%	1/4W
R21	1-215-413-00	METAL	470	1%	1/4W
R22	1-215-413-00	METAL	470	1%	1/4W
R23	1-249-385-11	CARBON	2.2	5%	1/4W
	SWITCH				
S01	1-571-032-41	SWITCH PUSH (1 KEY)			
S02	1-762-837-11	SWITCH TACTILE			
S03	1-762-837-11	SWITCH TACTILE			
S04	1-762-837-11	SWITCH TACTILE			
S05	1-762-837-11	SWITCH TACTILE			
S06	1-692-431-21	SWITCH TACTILE			
S07	1-692-431-21	SWITCH TACTILE			
S08	1-692-431-21	SWITCH TACTILE			
S09	1-692-431-21	SWITCH TACTILE			
S10	1-692-431-21	SWITCH TACTILE			
S11	1-692-431-21	SWITCH TACTILE			

REF.NO.	PART NO.	DESCRIPTION	VALUES		
U					
*	**A-1373-817-A**	**U (COM) BOARD, MOUNTED**			
	CAPACITOR				
C2405	1-126-964-11	ELECT	10µF	20%	50V
C2406	1-126-791-11	ELECT	10µF	20%	16V
C2407	1-126-964-11	ELECT	10µF	20%	50V
C2408	1-126-791-11	ELECT	10µF	20%	16V
C2409	1-126-964-11	ELECT	10µF	20%	50V
C2410	1-126-964-11	ELECT	10µF	20%	50V
C2411	1-126-926-11	ELECT	1000µF	20%	10V
C2412	1-126-964-11	ELECT	10µF	20%	50V
C2413	1-126-964-11	ELECT	10µF	20%	50V
C2414	1-126-791-11	ELECT	10µF	20%	16V
C2415	1-126-964-11	ELECT	10µF	20%	50V
	CONNECTOR				
* CN2401	1-785-303-11	CONNECTOR, DIN (PLUG)	64P		
	DIODE				
D2401	8-719-977-28	DIODE UDZSTE-1710B			
D2402	8-719-977-28	DIODE UDZSTE-1710B			
D2403	8-719-977-28	DIODE UDZSTE-1710B			
D2405	8-719-977-28	DIODE UDZSTE-1710B			
D2406	8-719-977-28	DIODE UDZSTE-1710B			
D2407	8-719-977-28	DIODE UDZSTE-1710B			
D2409	8-719-977-28	DIODE UDZSTE-1710B			
D2410	8-719-800-76	DIODE MA153-TX			
D2411	8-719-977-28	DIODE UDZSTE-1710B			
D2412	8-719-800-76	DIODE MA153-TX			
D2413	8-719-800-76	DIODE MA153-TX			
D2414	8-719-800-76	DIODE MA153-TX			
D2415	8-719-800-76	DIODE MA153-TX			
D2416	8-719-800-76	DIODE MA153-TX			
D2423	8-719-800-76	DIODE MA153-TX			
D2424	8-719-800-76	DIODE MA153-TX			
D2425	8-719-800-76	DIODE MA153-TX			
D2426	8-719-800-76	DIODE MA153-TX			
D2427	8-719-800-76	DIODE MA153-TX			
D2428	8-719-800-76	DIODE MA153-TX			
D2429	8-719-977-28	DIODE UDZSTE-1710B			
D2430	8-719-977-28	DIODE UDZSTE-1710B			

US

REF.NO.	PART NO.	DESCRIPTION	VALUES		
D2431	8-719-977-28	DIODE UDZSTE-1710B			
D2432	8-719-977-28	DIODE UDZSTE-1710B			
D2433	8-719-977-28	DIODE UDZSTE-1710B			
D2434	8-719-977-28	DIODE UDZSTE-1710B			
	JACK				
J2401	1-573-967-12	BLOCK, (S) TERMINAL			
J2402	1-750-517-11	JACK BLOCK, PIN 3P			
J2403	1-750-517-11	JACK BLOCK, PIN 3P			
J2405	1-764-143-11	JACK			
J2406	1-764-143-11	JACK			
J2407	1-774-358-11	JACK BLOCK, PIN			
J2408	1-774-358-11	JACK BLOCK, PIN			
J2409	1-750-516-11	JACK BLOCK, PIN 2P			
	RESISTOR				
R2401	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2402	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2403	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2407	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2408	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2409	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2428	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2430	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2431	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2432	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2433	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2434	1-216-021-00	RES-CHIP	68	5%	1/10W
R2435	1-216-295-91	SHORT			
R2436	1-216-295-91	SHORT			

S

*	**A-1391-048-A**	**S BOARD, MOUNTED**			
	CAPACITOR				
C4101	1-126-964-11	ELECT	10µF	20%	50V
C4102	1-126-964-11	ELECT	10µF	20%	50V
C4103	1-126-959-11	ELECT	0.47µF	20%	50V
C4104	1-126-959-11	ELECT	0.47µF	20%	50V
C4105	1-126-968-11	ELECT	100µF	20%	50V
C4106	1-126-968-11	ELECT	100µF	20%	50V
C4107	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C4108	1-126-964-11	ELECT	10µF	20%	50V
C4109	1-126-964-11	ELECT	10µF	20%	50V
C4110	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C4111	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C4112	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
C4113	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C4114	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C4115	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
C4116	1-163-017-00	CERAMIC CHIP	.0047µF	10%	50V
C4117	1-126-968-11	ELECT	100µF	20%	50V
	CONNECTOR				
CN4101	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P			
	DIODE				
D4101	8-719-914-43	DIODE DAN202K-T-146			
D4102	8-719-914-44	DIODE DAP202K-T-146			
	IC				
IC4101	8-759-686-15	IC NJM2180M	(TE2)		
IC4102	8-759-711-10	IC NJU4066BM-T1			
IC4103	8-752-058-68	IC CXA1315M-T4			
	COIL				
L4101	1-408-607-31	INDUCTOR	22µH		
	RESISTOR				
R4101	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R4102	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R4103	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R4104	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R4105	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4106	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4107	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4108	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R4109	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R4110	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R4111	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4112	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4113	1-216-091-00	RES-CHIP	56K	5%	1/10W
R4114	1-216-295-91	SHORT			
R4115	1-216-295-91	SHORT			
R4116	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4117	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4118	1-216-055-00	RES-CHIP	1.8K	5%	1/10W

SW

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R4119	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4120	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4121	1-216-077-91	RES-CHIP	15K	5%	1/10W
R4123	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4124	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4125	1-216-101-00	RES-CHIP	150K	5%	1/10W
R4126	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4127	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4128	1-216-091-00	RES-CHIP	56K	5%	1/10W
R4129	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4130	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R4131	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R4132	1-216-085-91	RES-CHIP	33K	5%	1/10W
R4133	1-216-092-00	RES-CHIP	62K	5%	1/10W
R4134	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4135	1-216-017-91	RES-CHIP	47	5%	1/10W
R4136	1-216-017-91	RES-CHIP	47	5%	1/10W

W

*	**A-1372-833-A**	**W BOARD, MOUNTED**	
	4-382-854-01	SCREW (M3X8), P, SW (+)	

CAPACITOR

C9101	1-107-364-11	MYLAR	0.01µF	10%	200V
C9102	1-107-364-11	MYLAR	0.01µF	10%	200V
C9103	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C9104	1-163-009-91	CERAMIC CHIP	0.001µF	10%	50V
C9105	1-104-999-11	MYLAR	0.1µF	10%	200V
C9106	1-107-667-11	ELECT	2.2µF	20%	160V
C9107	1-126-935-11	ELECT	470µF	20%	16V
C9108	1-126-935-11	ELECT	470µF	20%	16V
C9109	1-107-963-11	ELECT	33µF	20%	160V
C9112	1-126-933-11	ELECT	100µF	20%	16V
C9113	1-126-933-11	ELECT	100µF	20%	16V
C9115	1-126-935-11	ELECT	470µF	20%	6.3V
C9116	1-126-935-11	ELECT	470µF	20%	6.3V
C9117	1-104-999-11	MYLAR	0.1µF	10%	200V

CONNECTOR

*	CN9101	1-564-506-11	PLUG,CONNECTOR	3P
*	CN9102	1-564-515-11	PLUG,CONNECTOR	12P
*	CN9103	1-564-506-11	PLUG,CONNECTOR	3P
*	CN9104	1-770-747-11	CONNECTOR, BOARD TO BOARD	12P

REF.NO.	PART NO.	DESCRIPTION	VALUES		

DIODE

D9101	8-719-924-11	DIODE MTZJ-T-77-22
D9102	8-719-924-11	DIODE MTZJ-T-77-22
D9103	8-719-404-50	DIODE MA111-TX
D9104	8-719-404-50	DIODE MA111-TX
D9105	8-719-404-50	DIODE MA111-TX
D9106	8-719-404-50	DIODE MA111-TX
D9107	8-719-510-02	DIODE D1NS4-TR

COIL

L9101	1-412-525-31	INDUCTOR	10µH

TRANSISTOR

Q9101	8-729-045-05	TRANSISTOR 2SA2005
Q9102	8-729-045-04	TRANSISTOR 2SC5511
Q9103	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q9104	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q9105	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR
Q9106	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q9107	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR
Q9108	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX

RESISTOR

R9102	1-249-414-11	CARBON	560	5%	1/4W
R9103	1-249-432-11	CARBON	18K	5%	1/4W
R9104	1-249-432-11	CARBON	18K	5%	1/4W
R9105	1-249-414-11	CARBON	560	5%	1/4W
R9106	1-249-421-11	CARBON	2.2K	5%	1/4W
R9107	1-249-421-11	CARBON	2.2K	5%	1/4W
R9108	1-260-316-51	CARBON	100	5%	1/2W
R9109	1-249-385-11	CARBON	2.2	5%	1/4W
R9110	1-249-385-11	CARBON	2.2	5%	1/4W
R9111	1-249-405-11	CARBON	100	5%	1/4W
R9112	1-215-915-11	METAL OXIDE	470	5%	3W
R9113	1-216-017-91	RES-CHIP	47	5%	1/10W
R9114	1-249-425-11	CARBON	4.7K	5%	1/4W
R9115	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R9117	1-216-047-91	RES-CHIP	820	5%	1/10W
R9118	1-249-405-11	CARBON	100	5%	1/4W
R9119	1-249-399-11	CARBON	33	5%	1/4W
R9120	1-247-807-31	CARBON	100	5%	1/4W
R9121	1-249-409-11	CARBON	220	5%	1/4W
R9122	1-216-053-00	RES-CHIP	1.5K	5%	1/10W

W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R9123	1-249-401-11	CARBON	47	5%	1/4W
R9124	1-249-401-11	CARBON	47	5%	1/4W
R9125	1-216-073-91	RES-CHIP	10K	5%	1/10W
R9126	1-249-395-11	CARBON	15	5%	1/4W
R9127	1-216-005-00	RES-CHIP	15	5%	1/10W
R9128	1-216-295-91	SHORT			

ACCESSORIES AND PACKING MATERIALS

REF.NO.	PART NO.	DESCRIPTION
*	4-066-646-02	BAG, PROTECTION (ALL EXCEPT KV-32HS20/32XBR450)
*	4-066-845-02	BAG, PROTECTION (KV-32HS20/32XBR450 ONLY)
*	4-082-476-01	CARTON, HSC (KV-36XBR450/36XBR450H ONLY)
*	4-082-491-01	CARTON, HSC (KV-36HS20/36HS20H ONLY)
*	4-082-587-01	CARTON, INDIVIDUAL (KV-32HS20 ONLY)
*	4-075-743-04	CARTON, INDIVIDUAL (KV-32XBR450 ONLY)
*	4-082-401-01	CUSHION ASSY, FRONT (UPPER) (ALL EXCEPT KV-32HS20/32XBR450)
*	4-081-768-01	CUSHION ASSY, LOWER (ALL EXCEPT KV-32HS20/32XBR450)
*	4-075-733-03	CUSHION ASSY, UPPER (REAR) (KV-32HS20/32XBR450 ONLY)
*	4-075-734-02	CUSHION ASSY, UPPER (KV-32HS20/32XBR450 ONLY)
*	4-075-735-03	CUSHION ASSY, LOWER (KV-32HS20/32XBR450 ONLY)
	4-082-506-21	MANUAL, INSTRUCTION (ENGLISH) (ALL EXCEPT KV-32HS20/36HS20/36HS20H)
	4-082-506-31	MANUAL, INSTRUCTION (FRENCH) (KV-32XBR450C/36XBR450C ONLY)
	4-082-507-21	MANUAL, INSTRUCTION (KV-32HS20/36HS20/36HS20H ONLY)
	4-396-077-01	JOINT (ALL EXCEPT KV-32HS20/32XBR450)

REMOTE COMMANDER

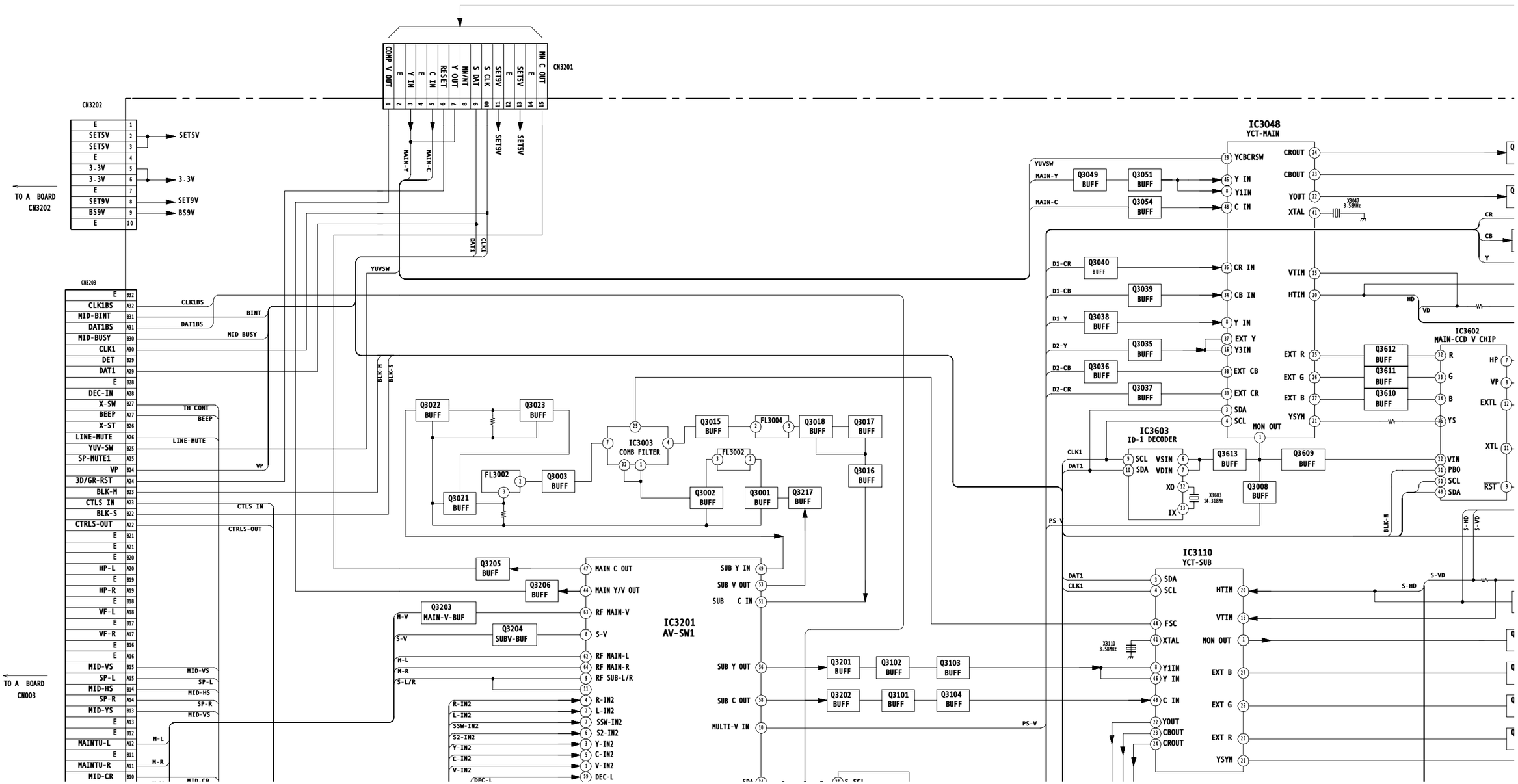
1-476-683-11	REMOTE COMMANDER (RM-Y184) (ALL EXCEPT KV-32HS20/36HS20/36HS20H)
4-081-888-01	BATTERY COVER FOR RM-Y184 (ALL EXCEPT KV-32HS20/36HS20/36HS20H)
1-476-682-11	REMOTE COMMANDER (RM-Y183) (KV-32HS20/36HS20/36HS20H ONLY)
4-978-977-01	BATTERY COVER FOR RM-Y183 (KV-32HS20/36HS20/36HS20H ONLY)

9-965-898-01

Sony Corporation
Sony Technology Center
Technical Services
Service Promotion Department

English
2001CJ74088-1
Printed in USA
2001.3

BLOCK DIAGRAM (3 OF 4)



BC Y/C SEP AUTO WIDE

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C IN 15
GND 14
5V 13
GND 12
9V 11
CLK 10
DAT 9
GND 8
Y-IN 7
RESET 6
COMB C 5
GND 4
COMB Y 3
GND 2
IN 1

IC3002 YCT-SEL
Q3053 BUFF
Q3056 BUFF
Q3058 BUFF
Q3009 BUFF
Q3010 BUFF
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Q3027 BUFF
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CB-M
Y-M
CR-S
CB-S
Y-S
Y-O
CR-O
CB-D
M/S
HD-M
VD-M
HD-O
VD-O
HD-S
VD-S
Y
CR
CB

Q3617.3618 INV
X3602 12MHz
IC3604 COMPARATOR
IC3004 DRC_SYN_SEL

IC3601 SUB-CCD V-CHIP
BLK-S
PBO
VP
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VIN(B)
VIN(A)
EXTCLP
XSYNC
CLK
CLP
ADHD
W13I
IVD
Q3303 BUFF
Q3304 BUFF

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GAME
PXI
VSTILL0
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DIY7
DIC0
DIC7
DY02
DY09
DR02
DR09
DB02
DB09
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CR0-7
CB0-7
DRCYIN0
DRCYIN7
DRCCRIN0
DRCCRIN7
DRCCBIN0
DRCCBIN7
DXT2IN
DXT1OUT
X3402 74.17524MH

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SYNC-SEL
O_DRC_CD_SEL
SUB-BUSY
B-INT
VP-MAIN
C1
C2
D1
D2
X1
X2
VDD
RST
MID BUSY
B INT
VP
CLK1
DAT1
NVM-WP
NVM-RST
DO
CO
WP
DAT
AA
CLK
Q3091 RST
Q3089 SW
Q3090 SW
Q3402 L-SHIFT
Q3404 L-SHIFT
X3089 20MHz
IC3091 RESET
VCC
RST
IC3090 MID-UCOM
DRC-INSEL
DRC-PXI
DRC-LINE-W
IICSCL
IICSDA

Q3508 BUFF
FL3501
Q3509 BUFF
Q3502 3.3v-REG
5V
3.3v
9V
Q3515.Q3516.Q3517 BUFF
FL3503
Q3514 BUFF
Q3511.Q3512.Q3513 BUFF
FL3502
Q3510 BUFF
Q3505 BUFF
FL3500
Q3504 BUFF
Q3501.Q3502.Q3503 BUFF
Q3506 BUFF
X3500 20MHz

IC3501 3D COMB/HH DEC
ACI
SCL
SDA
RSTB
ACO
AYO
XO
XI
CSI
AYI
AGND

IC3500 MEMORY
MIO0
MIO15
MAO
MA7
MA8
MWE
MOE
MCAS
MRAS
FSC1
FSCO
IO1
IO8
IO9
IO16
A0
A8
*WE
*OE
*LCAS
*UCAS
*RAS
Q3500 BUFF

2.5V
IC3409 2.5V-REG
3.3V

IC3404 WRITE PLL
VDOPLLHLD
VDOCLKIN
XVDOHS
XDSPVS
XDSPHS
XVDOVS
XRESET
PFD INHBIT
VCO OUT
FINA
FINB
IC3406 AND
IC3407 AND
IC3405 AND
IC3412 AND
IC3411 INV
IC3403 RESET
Q3401 BUFF
IC3413 SYNC SW
2151-VS
MID-VS
MID-HS
TH CONT

IC3410 D/A
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DSPCR7
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R9
B2
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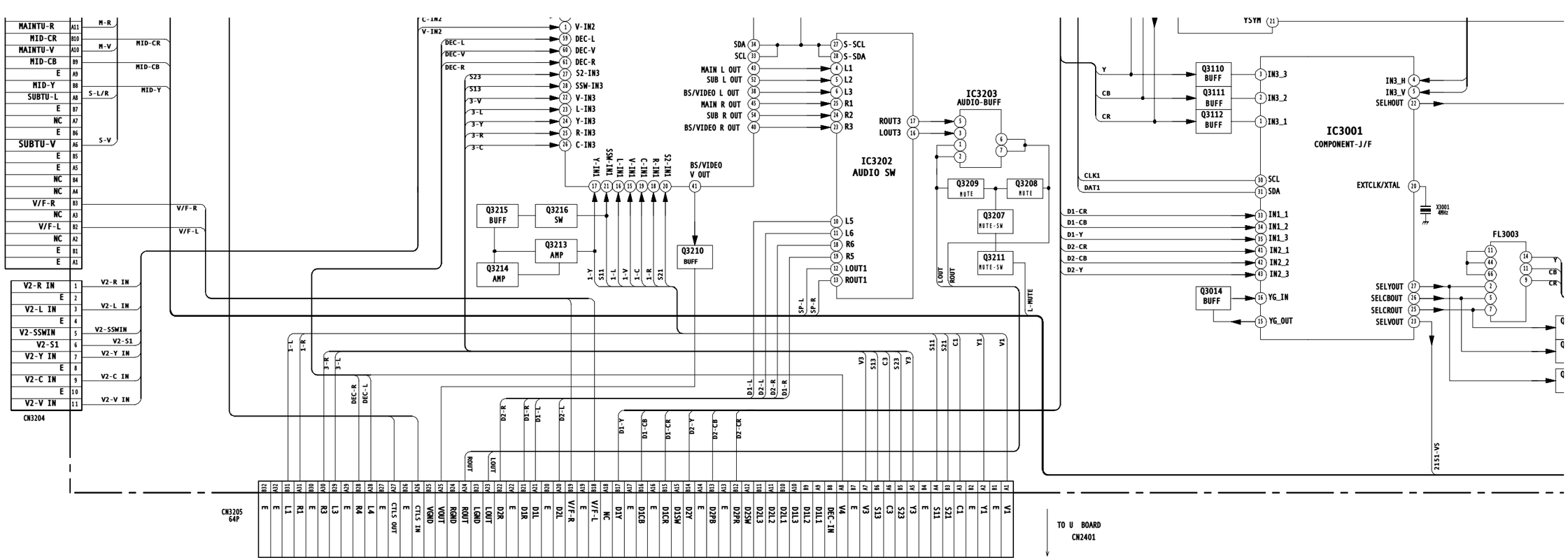
3.3V
FL3401
IC3414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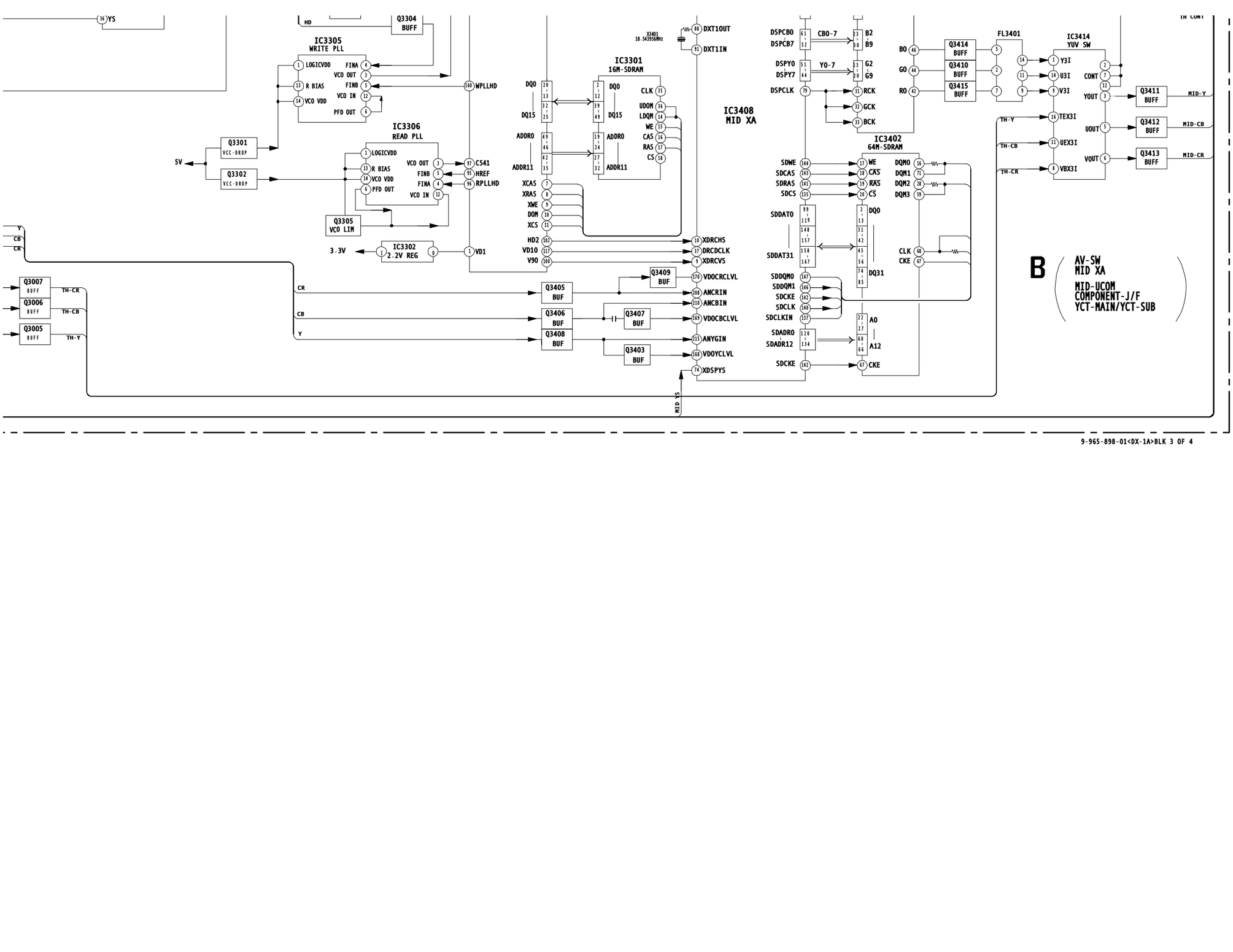
TO U BOARD
CN2401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IC3408
MID XA
IC3402
64M-SDRAM
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VCC-DROP
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Q3305
VCO LIM
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3.3V
5V
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BUFF
Q3007
BUFF
Q3006
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Q3005
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MID-CB
MID-CR
TH-CR
TH-CB
TH-Y
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MID XA
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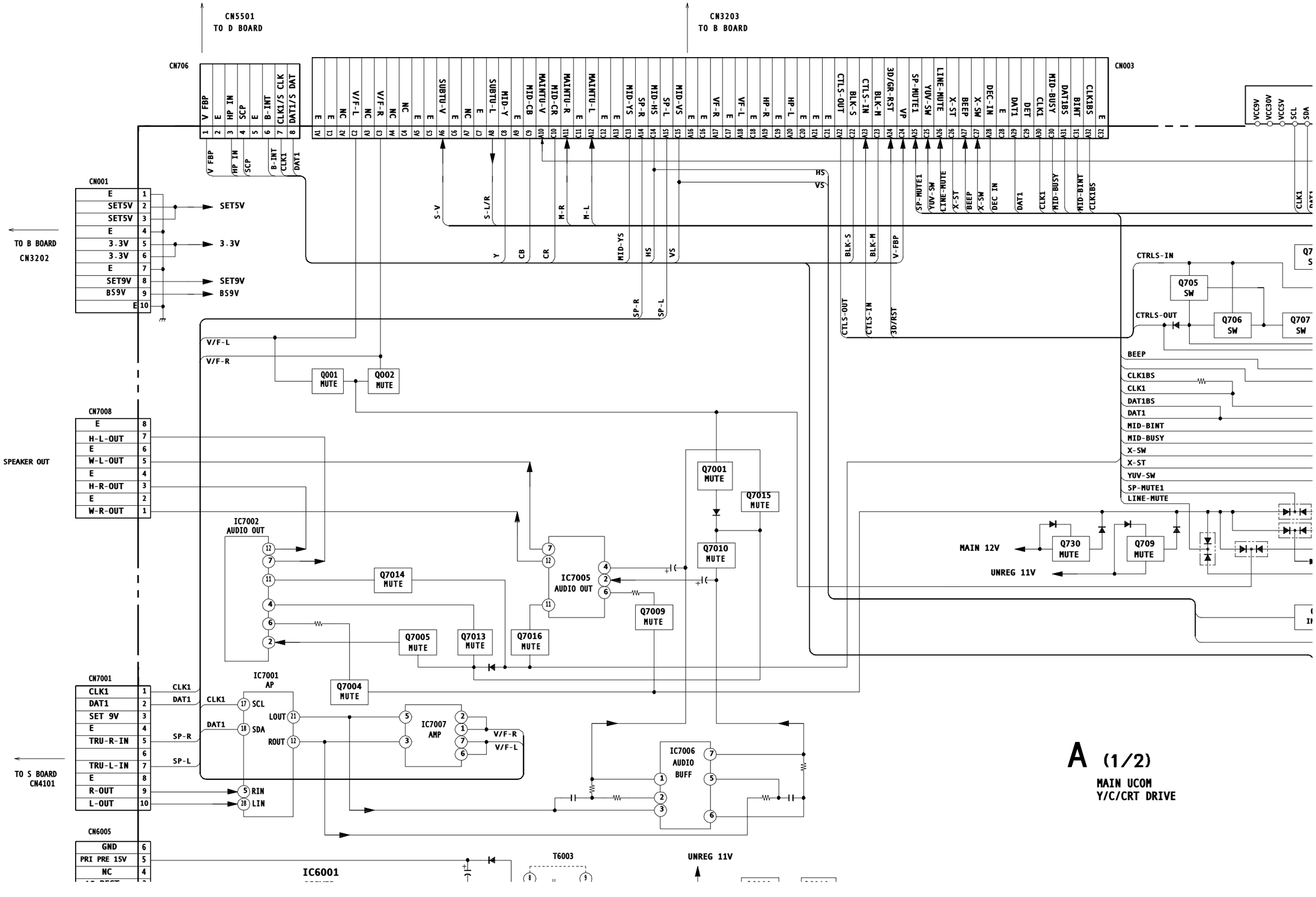
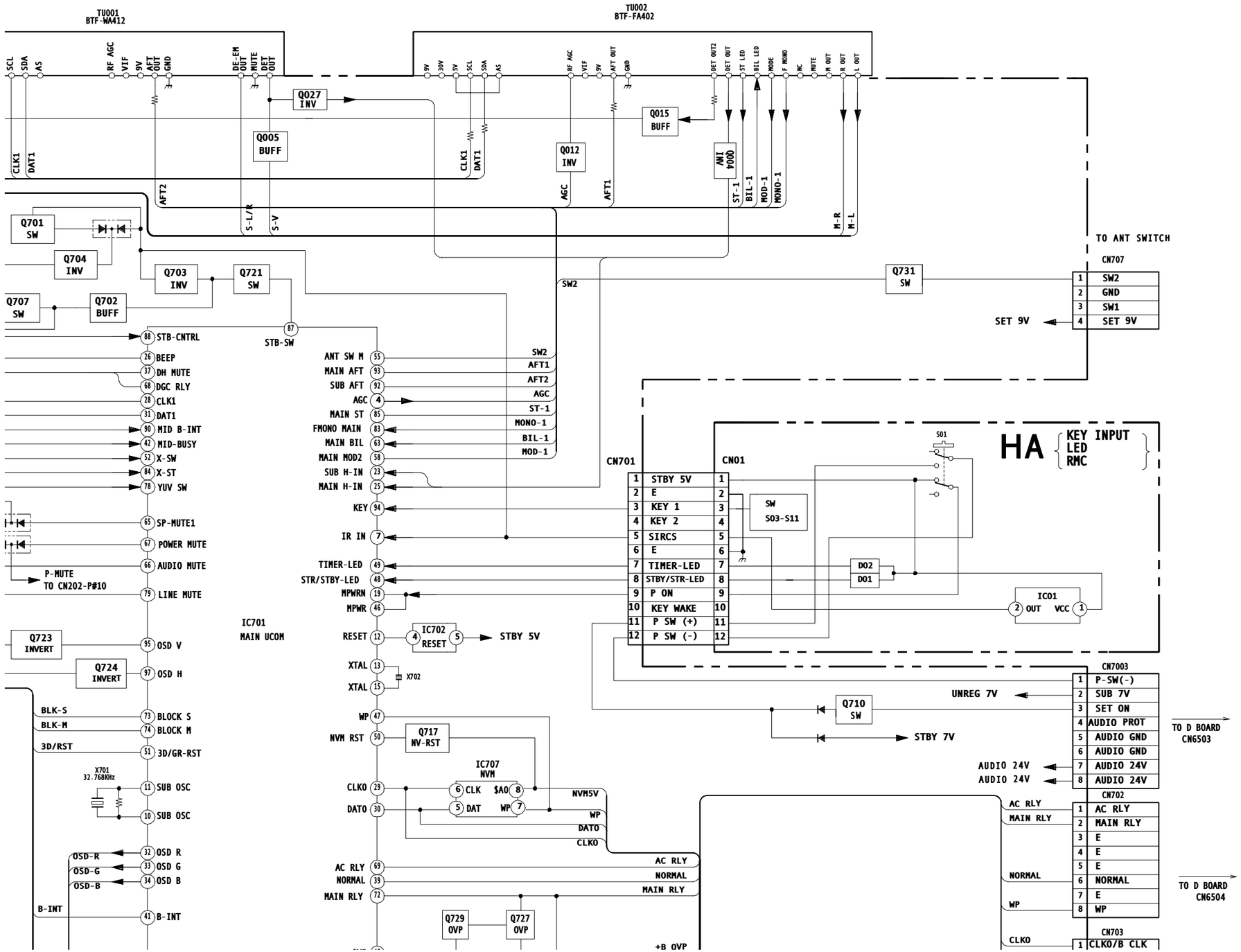
COMPONENT-J/F
YCT-MAIN/YCT-SUB

BLOCK DIAGRAM (4 OF 4)

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SDA
AS
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VIF
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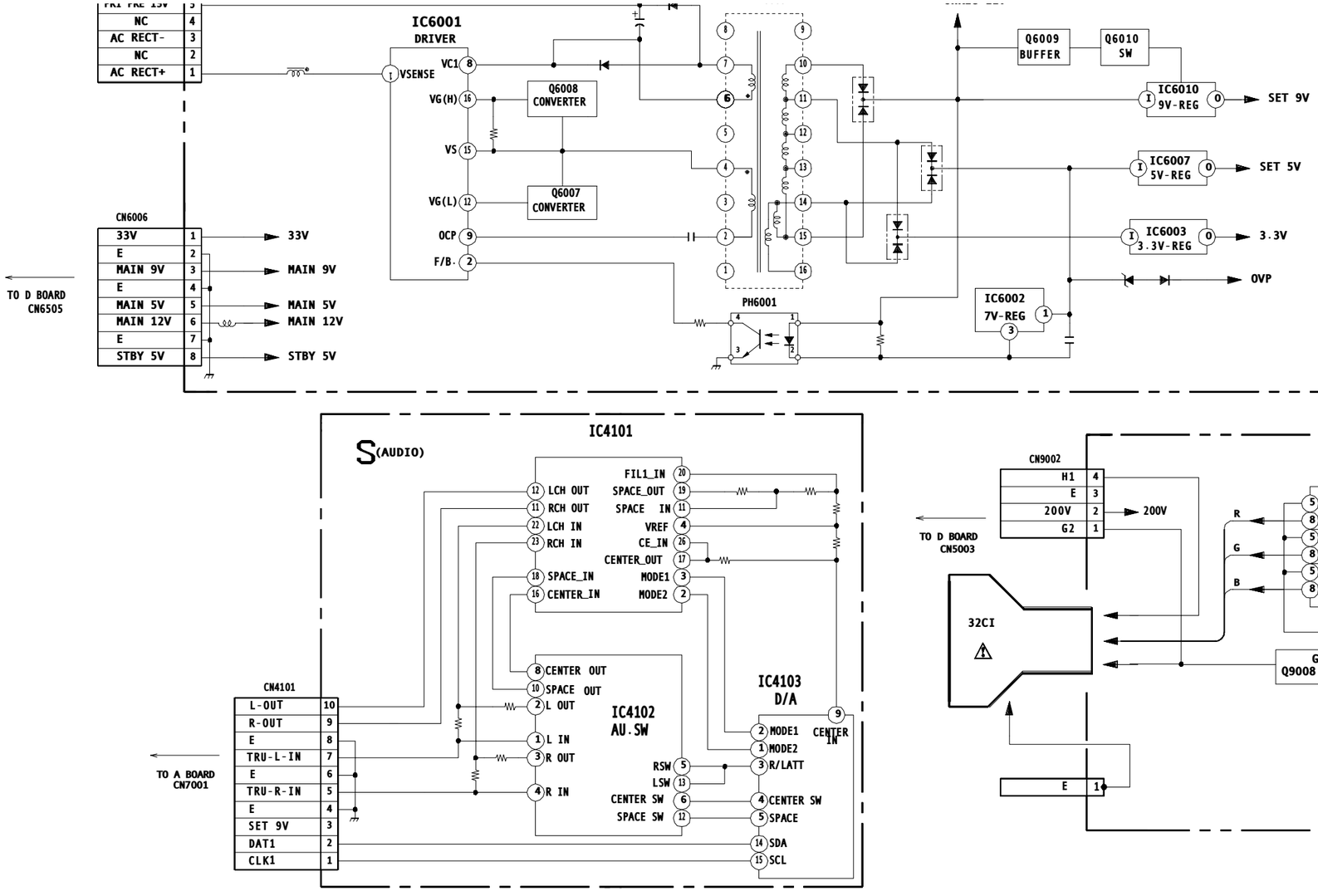
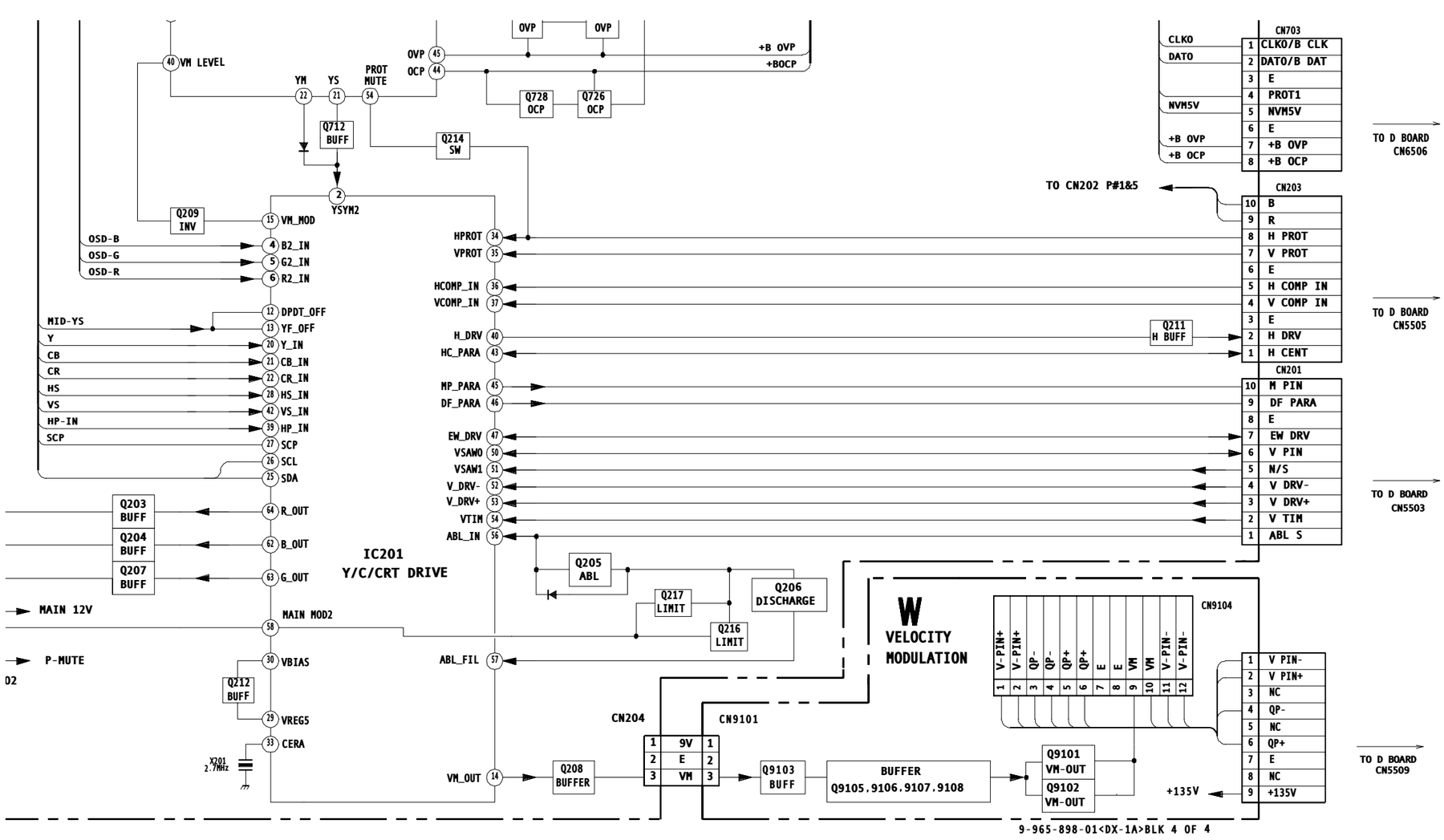
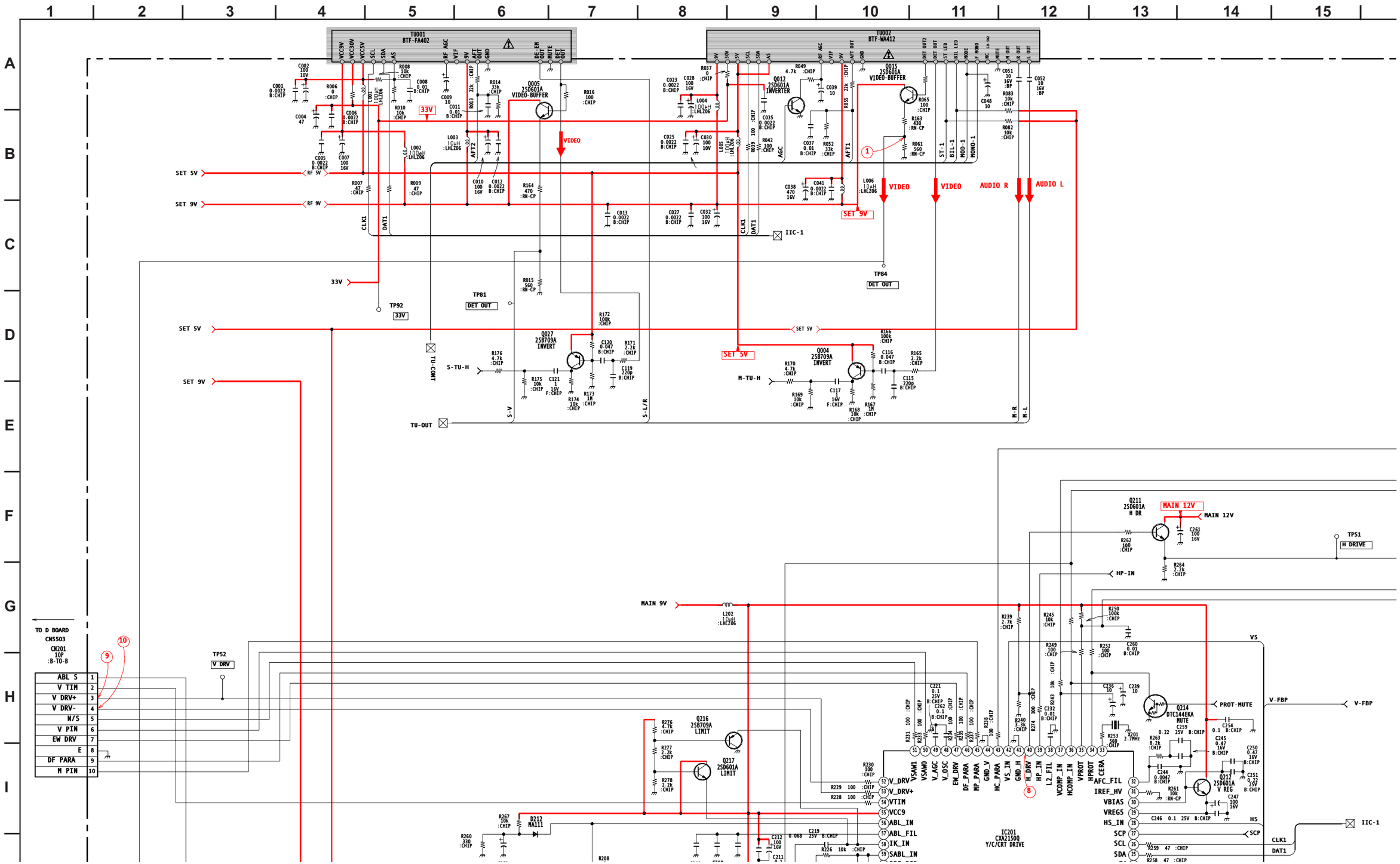
AFT OUT
GND
DE-EM OUT
MUTE
DET OUT
TU002
BTF-FA402
9V
30V
5V
SCL
SDA
AS
RF AGC
VIF
9V
AFT OUT
GND
DET OUT2
DET OUT
ST LED
BIL LED
MODE
F MONO
NC
MUTE
M OUT
R OUT
L OUT
Q027 INV
Q005 BUFF
Q015 BUFF
Q012 INV
ANT POOL INV
CLK1
DAT1
AFT2
S-L/R
S-V
AGC
AFT1
ST-1
BIL-1
MOD-1
MONO-1
M-R
M-L
Q701 SW
Q704 INV
Q703 INV
Q721 SW
Q731 SW
Q707 SW
Q702 BUFF
SW2
TO ANT SWITCH
CN707
1 SW2
2 GND
3 SW1
4 SET 9V
SET 9V
88 STB-CNTRL
87 STB-SW
26 BEEP
37 DH MUTE
68 DGC RLY
28 CLK1
31 DAT1
90 MID B-INT
42 MID-BUSY
52 X-SW
84 X-ST
78 YUV SW
65 SP-MUTE1
67 POWER MUTE
66 AUDIO MUTE
P-MUTE
TO CN202-P#10
79 LINE MUTE
ANT SW M 55
MAIN AFT 93
SUB AFT 92
AGC 4
MAIN ST 85
FMONO MAIN 83
MAIN BIL 63
MAIN MOD2 58
SUB H-IN 23
MAIN H-IN 25
KEY 94
IR IN 7
TIMER-LED 49
STR/STBY-LED 48
MPWRN 19
MPWR 46
RESET 12
XTAL 13
XTAL 15
WP 47
NVM RST 50
CLK0 29
DAT0 30
AC RLY 69
NORMAL 39
MAIN RLY 72
SW2
AFT1
AFT2
AGC
ST-1
MONO-1
BIL-1
MOD-1
IC701
MAIN UCOM
IC702
RESET
4
5
STBY 5V
X702
Q717
NV-RST
IC707
NVM
6 CLK
5 DAT
$A0 8
WP 7
NVM5V
WP
DAT0
CLK0
AC RLY
NORMAL
MAIN RLY
Q729
OVP
Q727
OVP
+B OVP
CN701
1 STBY 5V
2 E
3 KEY 1
4 KEY 2
5 SIRCS
6 E
7 TIMER-LED
8 STBY/STR-LED
9 P ON
10 KEY WAKE
11 P SW (+)
12 P SW (-)
CN01
SW
S03-S11
S01
HA
KEY INPUT
LED
RMC
DO2
DO1
IC01
2 OUT
VCC 1
Q710 SW
UNREG 7V
STBY 7V
CN7003
1 P-SW(-)
2 SUB 7V
3 SET ON
4 AUDIO PROT
5 AUDIO GND
6 AUDIO GND
7 AUDIO 24V
8 AUDIO 24V
TO D BOARD
CN6503
AUDIO 24V
AUDIO 24V
CN702
1 AC RLY
2 MAIN RLY
3 E
4 E
5 E
6 NORMAL
7 E
8 WP
AC RLY
MAIN RLY
NORMAL
WP
TO D BOARD
CN6504
CN703
1 CLKO/B CLK
CLKO
X701
32.768KHz
11 SUB OSC
10 SUB OSC
OSD-R
OSD-G
OSD-B
32 OSD R
33 OSD G
34 OSD B
B-INT
41 B-INT
Q723 INVERT
Q724 INVERT
95 OSD V
97 OSD H
BLK-S
BLK-M
3D/RST
73 BLOCK S
74 BLOCK M
51 3D/GR-RST


NC 4
AC RECT- 3
NC 2
AC RECT+ 1
IC6001
DRIVER
VSENSE
VC1
VG(H)
VS
VG(L)
OCP
F/B
Q6008 CONVERTER
Q6007 CONVERTER
Q6009 BUFFER
Q6010 SW
IC6010 9V-REG
SET 9V
IC6007 5V-REG
SET 5V
IC6003 3.3V-REG
3.3V
OVP
IC6002 7V-REG
PH6001
CN6006
33V 1
E 2
MAIN 9V 3
E 4
MAIN 5V 5
MAIN 12V 6
E 7
STBY 5V 8
TO D BOARD CN6505
IC4101
S(AUDIO)
LCH OUT
RCH OUT
LCH IN
RCH IN
SPACE_IN
CENTER_IN
FIL1_IN
SPACE_OUT
SPACE IN
VREF
CE_IN
CENTER_OUT
MODE1
MODE2
CENTER OUT
SPACE OUT
L OUT
L IN
R OUT
R IN
IC4102 AU.SW
RSW
LSW
CENTER SW
SPACE SW
IC4103 D/A
MODE1
MODE2
R/LATT
CENTER SW
SPACE
SDA
SCL
CENTER IN
CN4101
L-OUT 10
R-OUT 9
E 8
TRU-L-IN 7
E 6
TRU-R-IN 5
E 4
SET 9V 3
DAT1 2
CLK1 1
TO A BOARD CN7001
CN9002
H1 4
E 3
200V 2
G2 1
200V
TO D BOARD CN5003
32CI
R
G
B
IC9001 R.OUT
IC9002 G.OUT
IC9003 B.OUT
Q9009 BUFF
Q9010 BUFF
Q9011 BUFF
BLK-LMT Q9003.9004.9005
G2-REF Q9008.9012.9014
Q9002 MUTE
1 R-DRV 1
2 E 2
3 G-DRV 3
4 E 4
5 B-DRV 5
6 E 6
7 +12V 7
8 IK 8
9 E 9
10 P-MUTE 10
CN9001
CN202
E 1
C RGB DRIVE CRT DRIVE

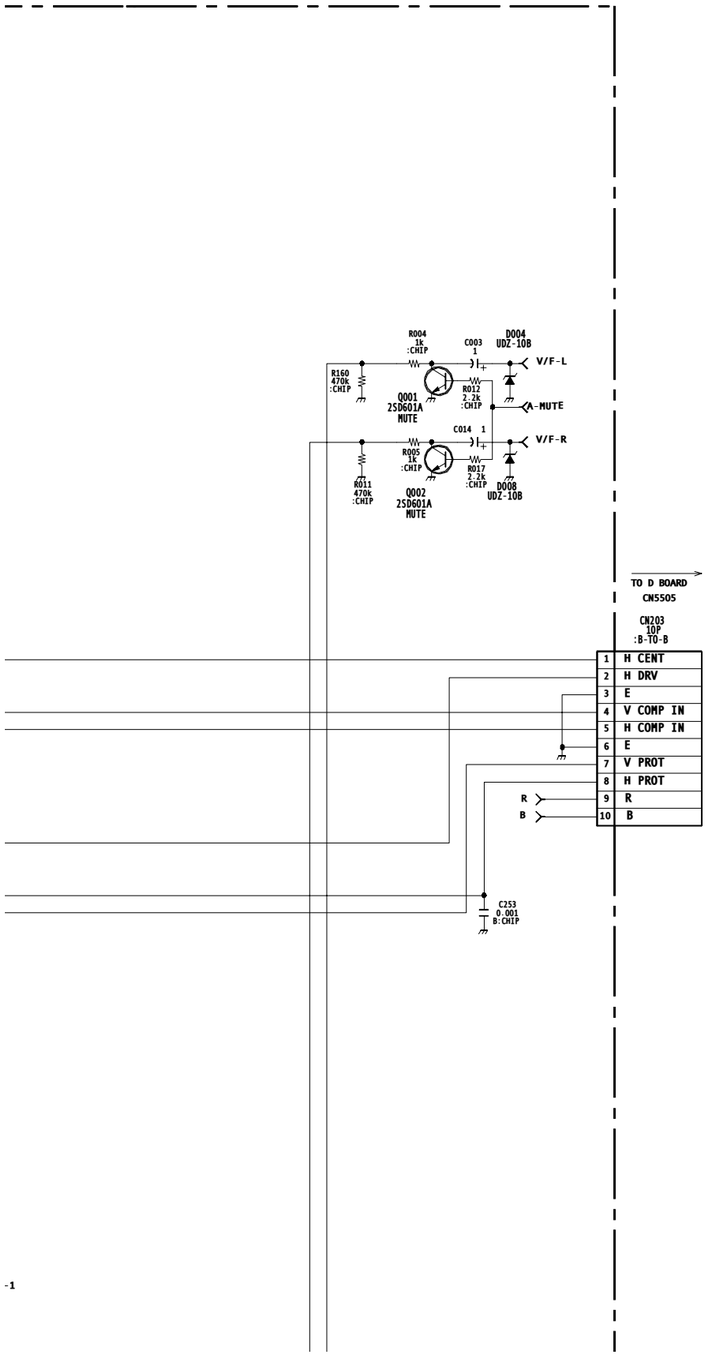


9-965-898-01<DX-1A>BLK 4 OF 4

A BOARD SCHEMATIC DIAGRAM (1 OF 3)

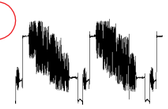
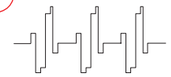
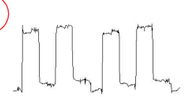
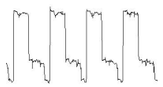
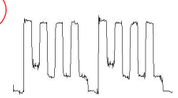
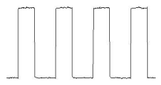
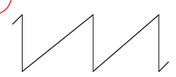


16 | 17 | 18 | 19 | 20

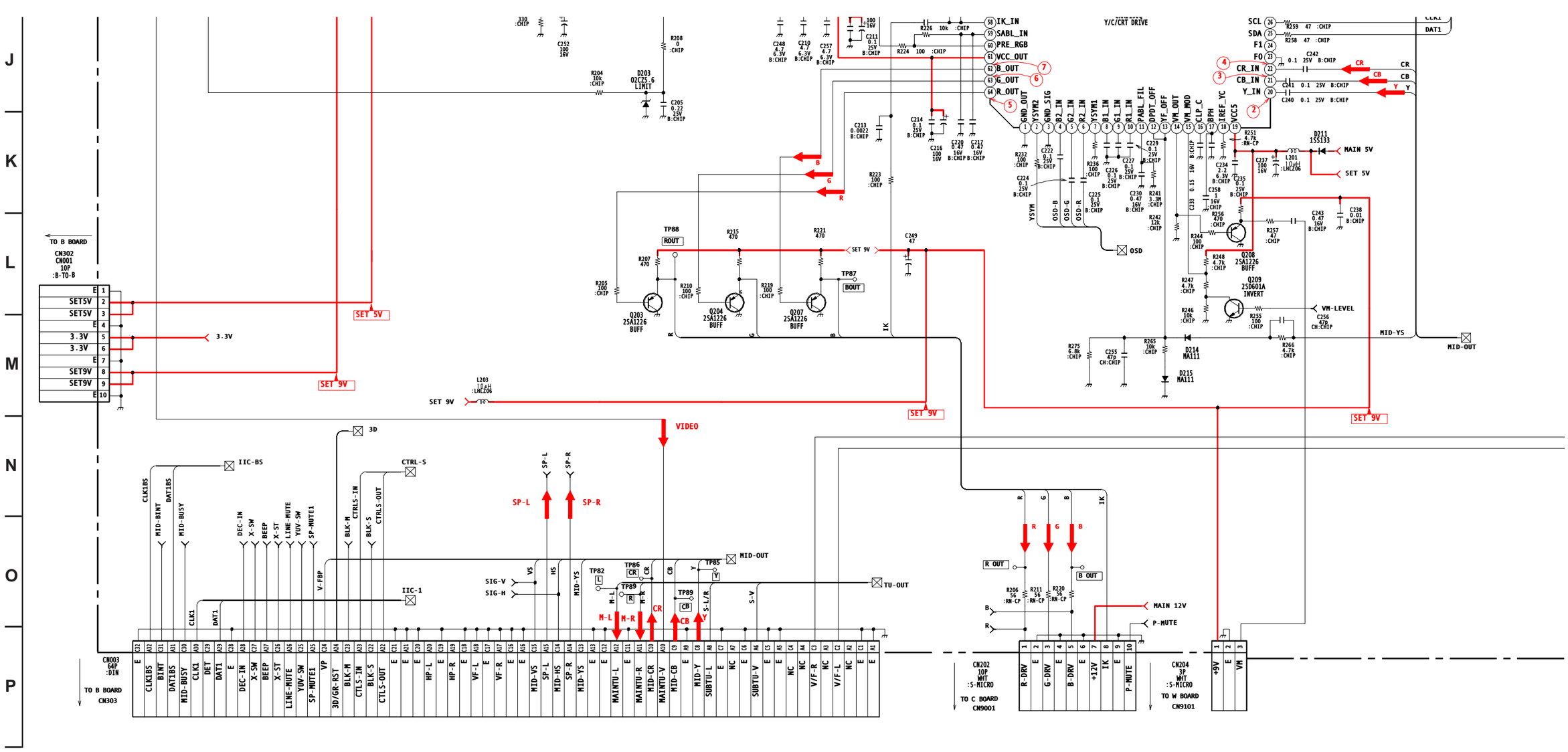


-1

A BOARD WAVEFORMS

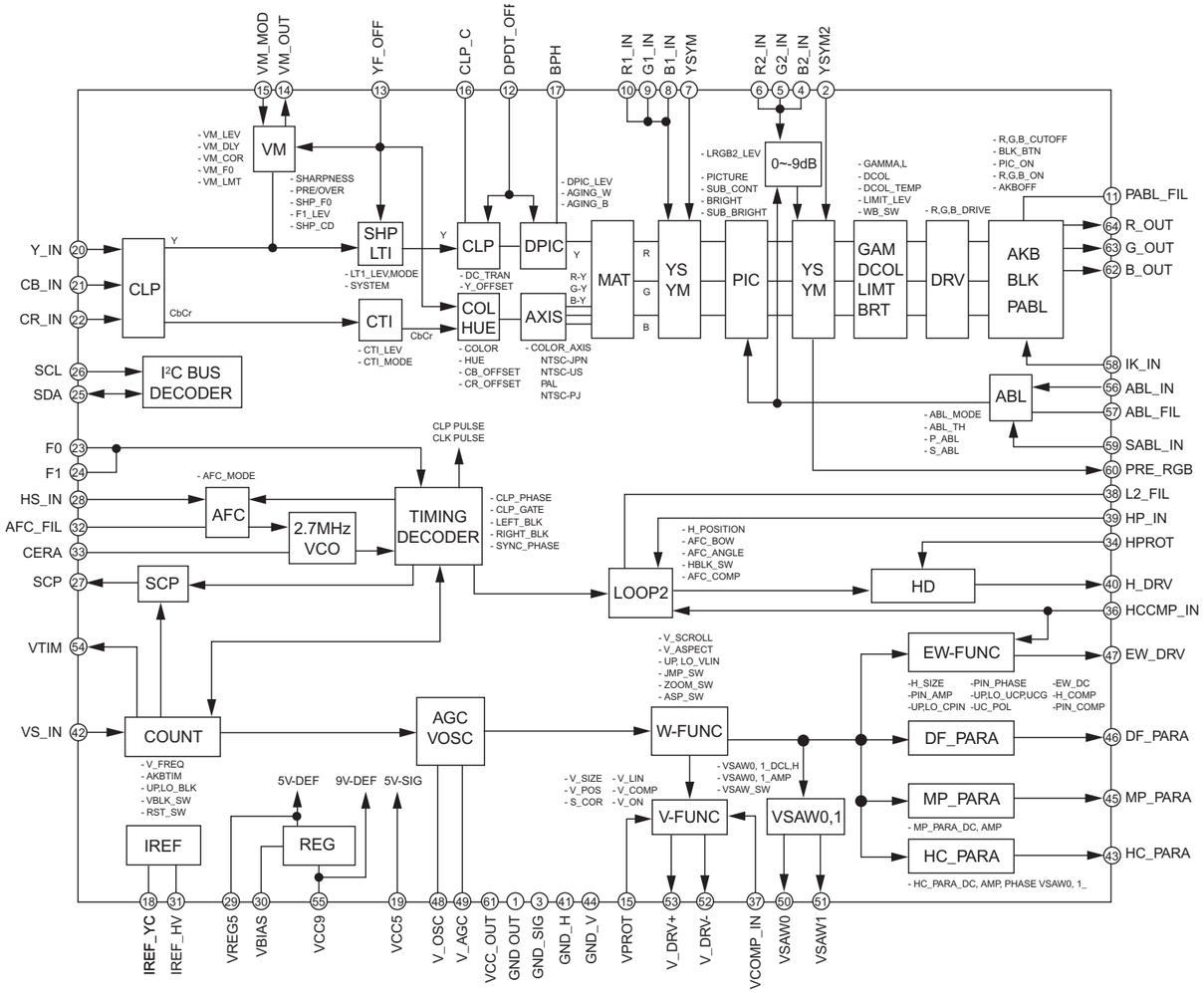
1  1.9 Vp-p (H)	2 1.2 Vp-p (H)	3 0.6 Vp-p (H)	4  0.7 Vp-p (H)
5  2.3 Vp-p (H)	6  3.5 Vp-p (H)	7  3.3 Vp-p (H)	8  3.8 Vp-p (H)
9 1.4 Vp-p (V)	10  1.4 Vp-p (V)		

A BOARD: IC CXA2150Q

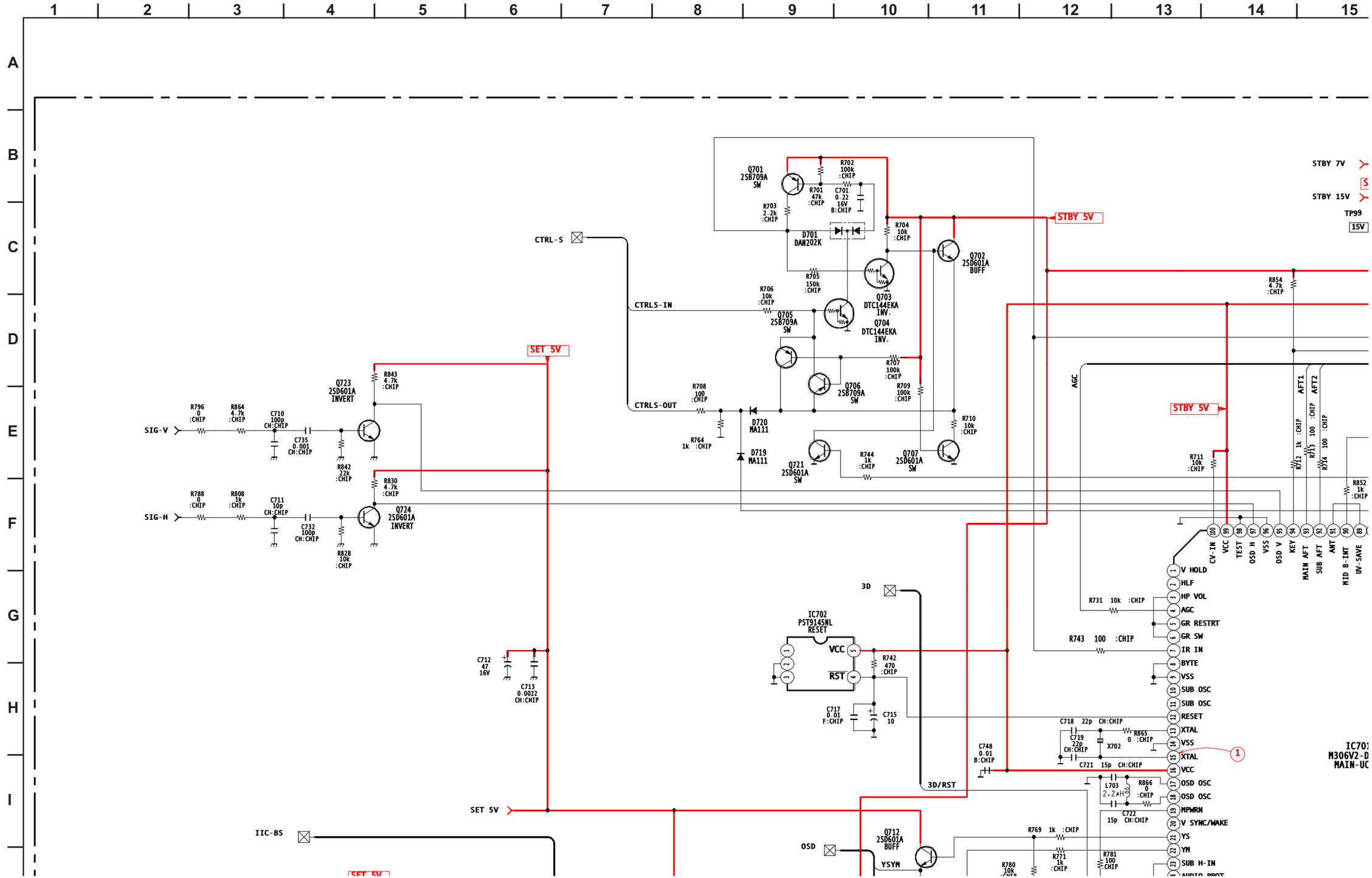

TO B BOARD
CN302
CN001
10P
:B-TO-B
E 1
SET5V 2
SET5V 3
E 4
3.3V 5
3.3V 6
E 7
SET9V 8
SET9V 9
E 10
3.3V
SET 5V
SET 9V
SET 9V
L203
1.0uH
:LMLZ06
SET 9V
TP88
ROUT
TP87
BOUT
R207 470
R205 100 :CHIP
R210 100 :CHIP
R215 470
R219 100 :CHIP
R221 470
C249 47
Q203 2SA1226 BUFF
Q204 2SA1226 BUFF
Q207 2SA1226 BUFF
R
G
B
IK
B
G
R
R223 100 :CHIP
C213 0.0022 B:CHIP
C214 0.1 25V B:CHIP
C216 100 16V
C220 0.47 16V B:CHIP
C217 0.47 16V B:CHIP
R226 10k :CHIP
R224 100 :CHIP
C211 0.1 25V B:CHIP
C248 4.7 6.3V B:CHIP
C210 4.7 6.3V B:CHIP
C257 4.7 6.3V B:CHIP
C252 100 16V
330 :CHIP
R204 10k :CHIP
D203 02CZ5.6 LIMIT
R208 0 :CHIP
C205 0.22 25V B:CHIP
58 IK_IN
59 SABL_IN
60 PRE_RGB
61 VCC_OUT
62 B_OUT
63 G_OUT
64 R_OUT
GND_OUT 1
YSYM2 2
GND_STG 3
B2_IN 4
G2_IN 5
R2_IN 6
YSYM1 7
B1_IN 8
G1_IN 9
R1_IN 10
PABL_FIL 11
DPDT_OFF 12
VF_OFF 13
VM_OUT 14
VM_MOD 15
CLP_C 16
BPH 17
TREF_YC 18
VCC5 19
SCL 26
SDA 25
F1 24
FO 23
CR_IN 22
CB_IN 21
Y_IN 20
R359 47 :CHIP
R258 47 :CHIP
C242 0.1 25V B:CHIP
C241 0.1 25V B:CHIP
C240 0.1 25V B:CHIP
CR
CB
Y
CLK1
DAT1
Y/C/CRT DRIVE
R232 100 :CHIP
C224 0.1 25V B:CHIP
C222 0.1 25V B:CHIP
C225 0.1 25V B:CHIP
R236 100 :CHIP
C226 0.1 25V B:CHIP
C227 0.1 25V B:CHIP
C229 0.1 25V B:CHIP
C230 0.47 16V B:CHIP
R241 3.3M :CHIP
R242 12k :CHIP
YSYM
OSD-B
OSD-G
OSD-R
OSD
C233 0.15 16V B:CHIP
C258 1 16V :CHIP
R256 470 :CHIP
R244 100 :CHIP
Q208 2SA1226 BUFF
R248 4.7k :CHIP
R247 4.7k :CHIP
Q209 2SD601A INVERT
R246 10k :CHIP
R255 100 :CHIP
C256 47p CH:CHIP
VM-LEVEL
R257 47 :CHIP
C234 2.2 6.3V B:CHIP
C235 0.1 25V B:CHIP
C243 0.47 16V B:CHIP
C238 0.01 B:CHIP
R251 4.7k :RN-CP
C237 100 16V
L201 1.0uH :LMLZ06
D211 1SS133
MAIN 5V
SET 5V
R275 6.8k :CHIP
C255 47p CH:CHIP
R265 10k :CHIP
D214 MA111
D215 MA111
R266 4.7k :CHIP
MID-YS
MID-OUT
SET 9V
VIDEO
3D
IIC-BS
CTRL-S
SP-L
SP-R
CLK1BS
DAT1BS
MID-BINT
MID-BUSY
DEC-IN
X-SW
BEEP
X-ST
LINE-MUTE
YUV-SW
SP-MUTE1
BLK-M
CTRLS-IN
BLK-S
CTRLS-OUT
V-FBP
IIC-1
SIG-V
SIG-H
VS
HS
MID-YS
TP82 L
TP86 CR
TP89 R
TP85 Y
TP89 CB
M-L
M-R
CR
CB
Y
S-L/R
S-V
MID-OUT
TU-OUT
R
G
B
IK
R OUT
B OUT
R206 56 :RN-CP
R211 56 :RN-CP
R220 56 :RN-CP
B
R
MAIN 12V
P-MUTE
CN003
64P
:DIN
TO B BOARD
CN303
E C32
CLK1BS A32
BINT C31
DAT1BS A31
MID-BUSY C30
CLK1 A30
DET C29
DAT1 A29
E C28
DEC-IN A28
X-SW C27
BEEP A27
X-ST C26
LINE-MUTE A26
YUV-SW C25
SP-MUTE1 A25
VP C24
3D/GR-RST A24
BLK-M C23
CTLS-IN A23
BLK-S C22
CTLS-OUT A22
E C21
E A21
E C20
HP-L A20
E C19
HP-R A19
E C18
VF-L A18
E C17
VF-R A17
E C16
E A16
MID-VS C15
SP-L A15
MID-HS C14
SP-R A14
MID-YS C13
E A13
E C12
MAINTU-L A12
E C11
MAINTU-R A11
MID-CR C10
MAINTU-V A10
MID-CB C9
E A9
MID-Y C8
SUBTU-L A8
E C7
NC A7
E C6
SUBTU-V A6
E C5
E A5
NC C4
NC A4
V/F-R C3
NC A3
V/F-L C2
NC A2
E C1
E A1
CN202
10P
WHT
:S-MICRO
TO C BOARD
CN9001
R-DRV 1
E 2
G-DRV 3
E 4
B-DRV 5
E 6
+12V 7
IK 8
E 9
P-MUTE 10
CN204
3P
WHT
:S-MICRO
TO W BOARD
CN9101
+9V 1
E 2
VH 3

A (1/3)

TUNER
CRT DRIVE



A BOARD SCHEMATIC DIAGRAM (2 OF 3)



15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27

TO HA BOARD
CN01

CN701
12P WHT :S-MICRO

1	2	3	4	5	6	7	8	9	10	11	12
STBY 5V	E	KEY 1	KEY 2	SIRCS	E	TIMER-LED	STBY/STR-LED	P ON	KEY WAKE	P SW (+)	P SW (-)

TO D BOARD
CN6504

CN702
8P
:B-TO-B

1	2	3	4	5	6	7	8
AC RLY	MAIN RLY	E	E	E	NORMAL	E	WP

1	2	3	4	5	6	7	8
CLKO/B CLK	DATO/B DAT	E	PROT1	NVM5V	E	+B OVP	+B OCP

TO D BOARD
CN6506

CN703
8P
:B-TO-B

STBY 7V
D721 MA111
P-SW(-)
STBY 15V
D722 MA111
V
TP99
15V
R787
1M :CHIP
Q710
DTA114EKA
SW
SET ON
C724
2.2
STBY 5V
C702
47
16V
L701
0
C703
47
16V
L702
0 µH
WP
CLKO
DATO
NVM5V
IIC-0
MAIN-RLY
AC-RLY
MPWR
OVP
TU-CONT
ST-1
MONO-1
BIL-1
MOD-1
MID-BINT
X-ST
R852
1k
:CHIP
R719
1k
:CHIP
R856
1k
:CHIP
R721
1k
:CHIP

90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	71
MID-BINT	UV-SAVE	STB-CNTRL	-	FMONO SUB	MAIN ST	X-ST	FMONO MAIN	CN CONT	SUB ST	BS-SAVE	LINE MUTE	YUV SW	NASY	CNST	AC OFF	BLOCK S	BLOCK M	MAIN RLY	BS RST

70	69	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51
DEC IN	AC RLY	DGC RLY	POWER MUTE	AUDIO MUTE	SP-MUTE1	VSS	MAIN BIL	VCC	HP MUTE	SUB MOD2	SUB MOD1	MAIN MOD2	MAIN MOD1	SUB BIL	SUB MUTE	SUB ST	SUB CONT	SUB RST	SUB DEC

R727 1k :CHIP
R729 1k :CHIP
YUV-SW
R847 100 :CHIP
BLK-S
R848 100 :CHIP
BLK-M
R749 1k :CHIP
R763
0
:CHIP
R754 100 :CHIP
R755 100 :CHIP
DGC-RLY
R756 100 :CHIP
R857 100 :CHIP
R758
100
:CHIP
R784
100 :CHIP
R776 1k :CHIP

IC701
6V2-DX1A
IN-UCOM

STBY 5V
SP-MUTE1
P-MUTE
A-MUTE
LINE-MUTE
D707
DAN202K
OR
D706
DAN202K
OR
D723
DAN202K
OR
D703
DAN202K
OR
R849
0
:CHIP
R777

UNREG 11V
C720
470
16V
R757
4.7k
:CHIP
D705
MA111
PROT
D724
MA111
R762
4.7k
:CHIP
Q709
2SB709A
MUTE
D725
MA111
DETECT1
C747
1000
16V
R863
1k
:CHIP
D728
MA111
PROT
D727
MA111
R862
4.7k
:CHIP
Q730
2SB709A
MUTE
D726
MA111
MAIN 12V

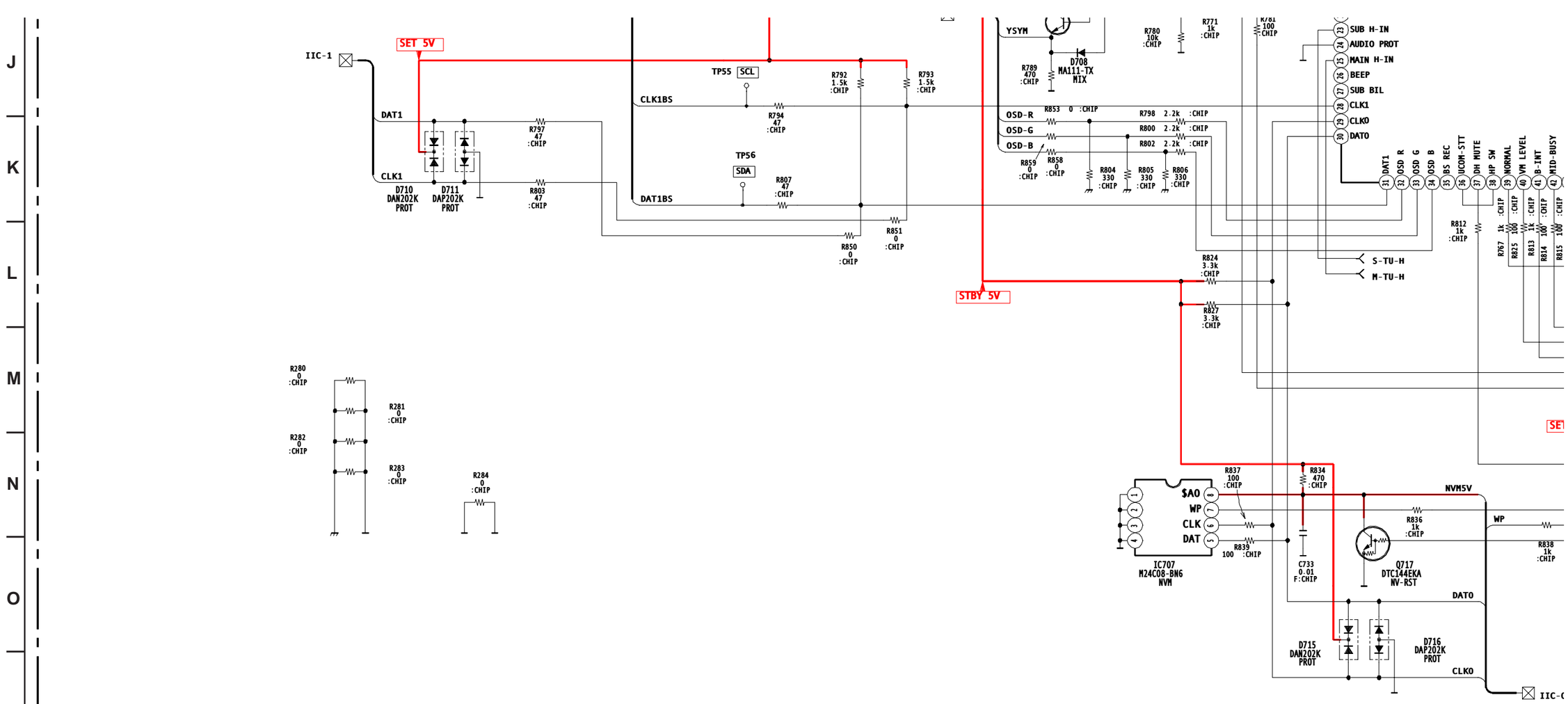
IIC-1
SCP
R841
220
:CHIP
CLK1
DAT1

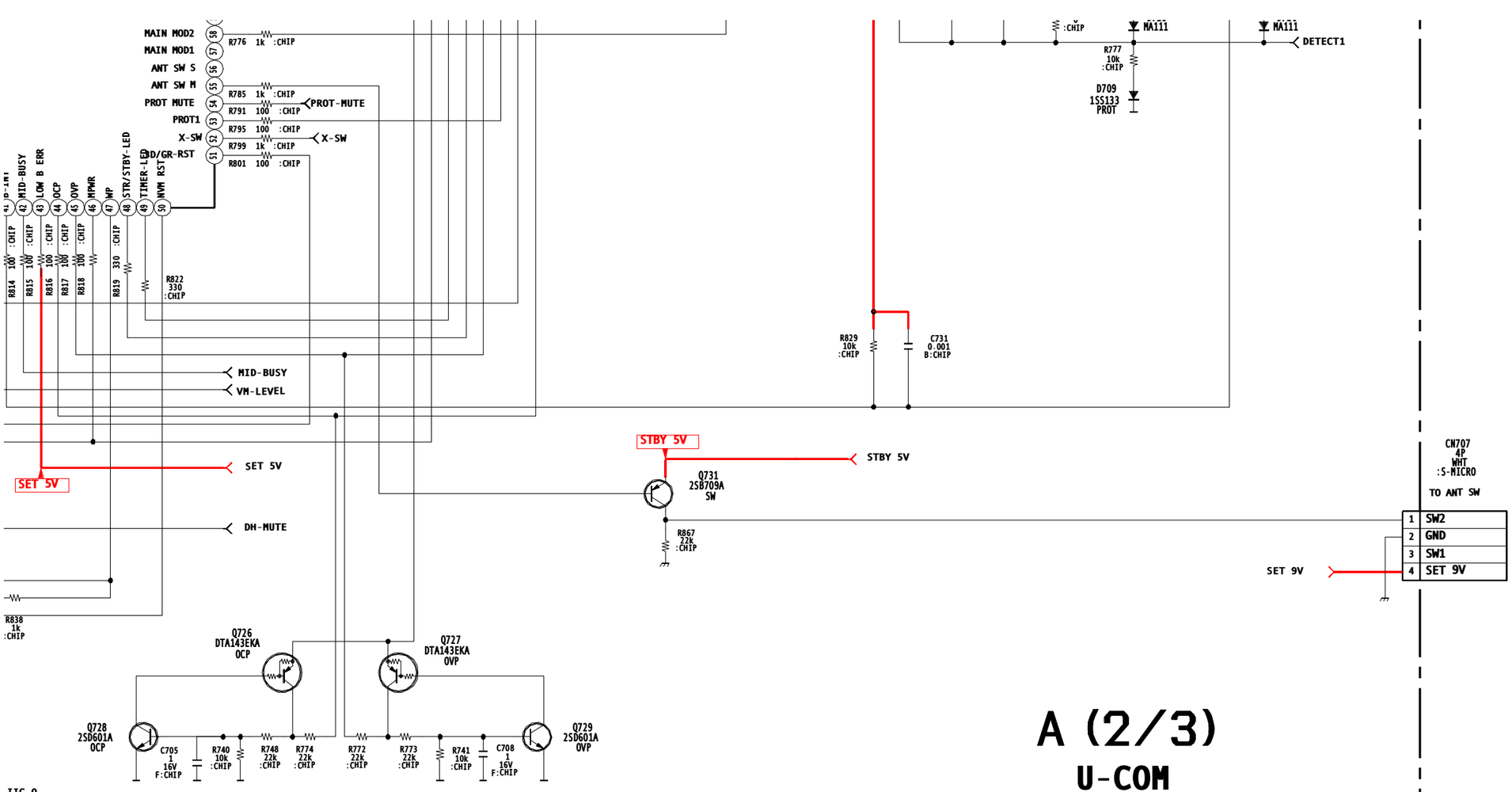
TO D BOARD
CN5501

CN706
8P
:B-TO-B

1	2	3	4	5	6	7	8
V FBP	E	HP IN	SCP	E	B-INT	CLK1/S CLK	DAT1/S DAT

V-FBP
HP-IN

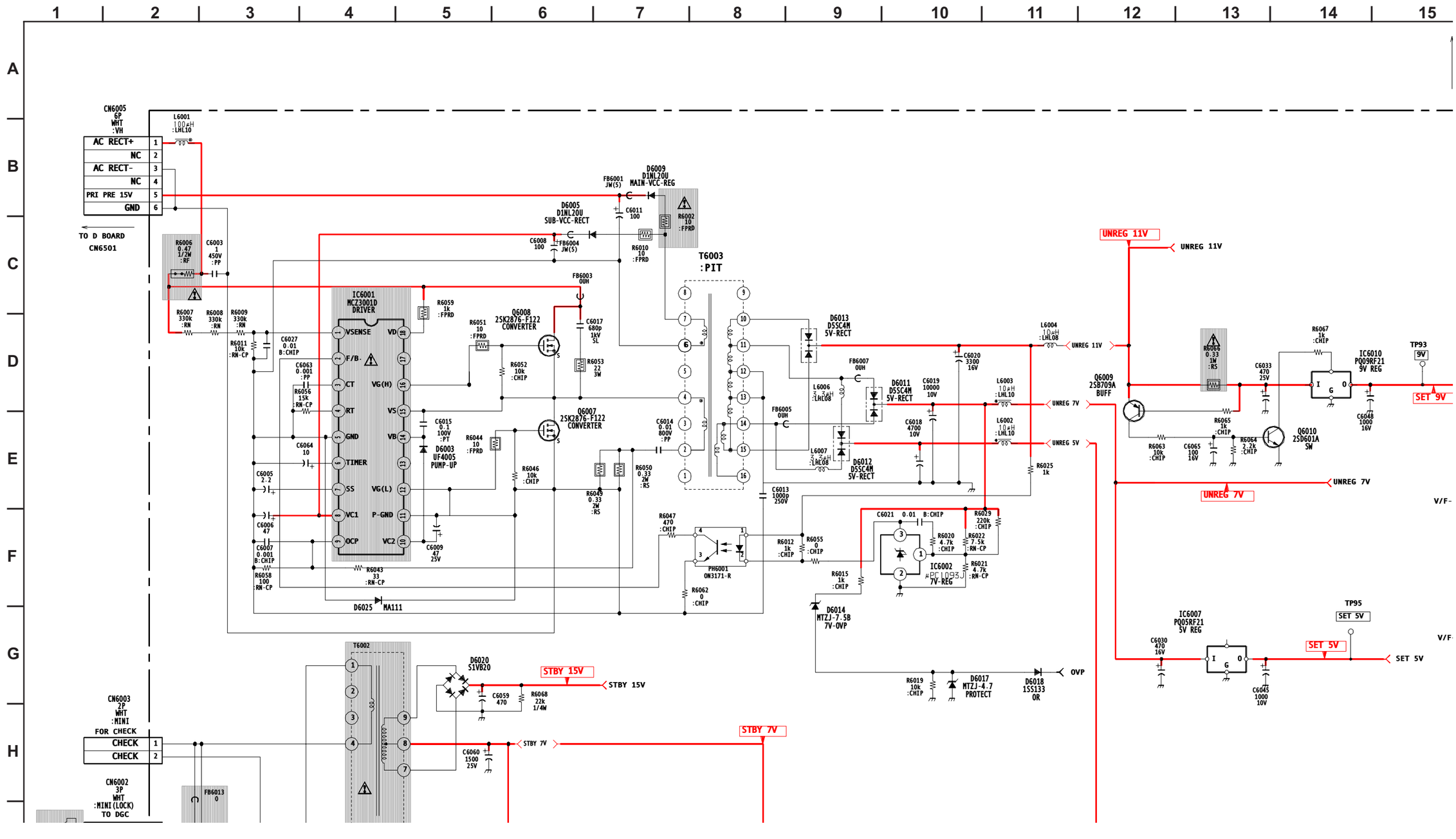

IIC-1
SET 5V
DAT1
CLK1
D710 DAN202K PROT
D711 DAP202K PROT
R797 47 :CHIP
R803 47 :CHIP
TP55 SCL
TP56 SDA
CLK1BS
DAT1BS
R792 1.5k :CHIP
R793 1.5k :CHIP
R794 47 :CHIP
R807 47 :CHIP
R850 0 :CHIP
R851 0 :CHIP
YSYM
R789 470 :CHIP
D708 MA111-TX MIX
R780 10k :CHIP
R771 1k :CHIP
R781 100 :CHIP
OSD-R
OSD-G
OSD-B
R853 0 :CHIP
R859 0 :CHIP
R858 0 :CHIP
R798 2.2k :CHIP
R800 2.2k :CHIP
R802 2.2k :CHIP
R804 330 :CHIP
R805 330 :CHIP
R806 330 :CHIP
SUB H-IN
AUDIO PROT
MAIN H-IN
BEEP
SUB BIL
CLK1
CLKO
DAT0
DAT1
OSD R
OSD G
OSD B
BS REC
UCOM-STT
DH MUTE
HP SW
NORMAL
VM LEVEL
B-INT
MID-BUSY
R812 1k :CHIP
R824 3.3k :CHIP
R827 3.3k :CHIP
S-TU-H
M-TU-H
STBY 5V
R280 0 :CHIP
R281 0 :CHIP
R282 0 :CHIP
R283 0 :CHIP
R284 0 :CHIP
R837 100 :CHIP
R834 470 :CHIP
$A0
WP
CLK
DAT
R839 100 :CHIP
IC707 M24C08-BN6 NVM
C733 0.01 F:CHIP
NVM5V
R836 1k :CHIP
Q717 DTC144EKA NV-RST
WP
R838 1k :CHIP
DAT0
CLK0
D715 DAN202K PROT
D716 DAP202K PROT
IIC-0


MAIN MOD2
MAIN MOD1
ANT SW S
ANT SW M
PROT MUTE
PROT1
X-SW
SD/GR-RST
R776 1k :CHIP
R785 1k :CHIP
R791 100 :CHIP
R795 100 :CHIP
R799 1k :CHIP
R801 100 :CHIP
PROT-MUTE
X-SW
MID-BUSY
LOW B ERR
OCP
OVP
MPWR
WP
STR/STBY-LED
TIMER-LED
NVM RST
R814 100 :CHIP
R815 100 :CHIP
R816 100 :CHIP
R817 100 :CHIP
R818 100 :CHIP
R819 330 :CHIP
R822 330 :CHIP
MID-BUSY
VM-LEVEL
SET 5V
DH-MUTE
R838 1k :CHIP
:CHIP
MA111
MA111
DETECT1
R777 10k :CHIP
D709 1SS133 PROT
R829 10k :CHIP
C731 0.001 B:CHIP
STBY 5V
STBY 5V
Q731 2SB709A SW
R867 22k :CHIP
CN707 4P WHT :S-MICRO
TO ANT SW
1 SW2
2 GND
3 SW1
4 SET 9V
SET 9V
Q726 DTA143EKA OCP
Q727 DTA143EKA OVP
Q728 2SD601A OCP
Q729 2SD601A OVP
C705 1 16V F:CHIP
R740 10k :CHIP
R748 22k :CHIP
R774 22k :CHIP
R772 22k :CHIP
R773 22k :CHIP
R741 10k :CHIP
C708 1 16V F:CHIP
IIC-0

A (2/3)

U-COM

A BOARD SCHEMATIC DIAGRAM (3 OF 3)



5 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27

TO D BOARD
CN4101

CN7001
10P
:B-TO-B

10	9	8	7	6	5	4	3	2	1
L-OUT	R-OUT	E	TRU-L-IN	E	TRU-R-IN	E	SET 9V	DAT1	CLK1

CLK1
DAT1
IIC-1

L
R
SET 9V
SP-L
SP-R
V/F-L
V/F-R
A-MUTE
SP-MUTE1
DETECT1

C7059 0.1 25V B:CHIP
R7008 33k :CHIP
C7076 100
R7045 22k :CHIP
C7075 0.1 25V B:CHIP
C7074 0.1 25V B:CHIP
R7005 1M :CHIP
C7077 1
R7046 4.7k :CHIP
C7084 0.0047 B:CHIP
R7071 1M :CHIP
C7078 1
C7015 0.033 25V B:CHIP
C7022 0.033 25V B:CHIP
C7013 0.0033 B:CHIP
C7021 0.0033 B:CHIP
C7014 0.033 25V B:CHIP
C7020 0.033 25V B:CHIP
C7012 0.0047 B:CHIP
C7019 0.0047 B:CHIP
C7011 0.47
C7016 0.47
C7010 4.7
C7017 4.7
C7018 0.22 :MPS
R7006 47k :CHIP
R7007 47 :CHIP
C7009 0.1 25V B:CHIP
C7008 1000 16V
C7110 470 25V
R7024 1k :CHIP
R7095 47k :CHIP
R7094 22k :CHIP
C7109 2.2
R7093 100 :CHIP
R7092 100 :CHIP
R7025 1k :CHIP
R7090 47k :CHIP
R7091 22k :CHIP
C7108 2.2
R7100 22k :CHIP
R7104 0 :CHIP
R7002 100k :CHIP
C7001 2.2
C7006 1000 16V
C7007 0.22 :MPS
R7004 39k :CHIP
R7003 39k :CHIP
R7012 3.3k :CHIP
R7016 10k :CHIP
R7011 3.3k :CHIP
R7017 10k :CHIP
C7025 1
R7103 1k :CHIP
R7101 22k :CHIP
R860 39k :CHIP
R7064 1k :CHIP
C7069 0.1 :MPS
R7063 39k :CHIP
R7048 470 :CHIP
R7061 0
C7088 1000
R7022 10k :CHIP

IC7001
BH3868AFS
AP
FILTER
GND
LS1
LS2
SOUT
RIN
BBASA2
BBASB2
BTREA2
BTREB2
BAS2
TRE2
ROUT
VC2
TC
VCC
CHIP
AGCAOJ
PS1
PS2
LIN
BBASA1
BBASB1
BTREA1
BTREB1
BAS1
TRE1
LOUT
VC1
BC
SDA
SCL

IC7007
NJM4558M
AMP

D7013
MA113
POP SUPPRESSOR

Q7001
2SD601A
MUTE

D7002
1SS133

D7005
HZU11B1

D7003
DAN202K

D7004
DAP202K

DAT1
CLK1

IC7002
TA8216H
AUDIO AMP
SGND
PGND
VCC
MUTE

R7097 4.7k :CHIP
D7010
MA111
PROTECTOR
D7009
MA111
PROTECTOR
D7016
MA113
R7009 0 :CHIP
C7023 470 16V
C7024 470 16V
R7013 15k :CHIP
C7026 1
R7010 0 :CHIP
C7033 220 16V
C7030 2200 35V
C7028 0.1 :MPS
C7029 0.001 B:CHIP
C7032 0.1 25V F:CHIP
R7021 1k :CHIP

Q7004
DTC114EKA
MUTE
Q7013
DTC114EKA
MUTE
Q7005
DTC114EKA
MUTE
Q7014
DTC114EKA
MUTE

AUDIO 24V

IC7005
TA8216H
AUDIO AMP
R7099 4.7k :CHIP
C7058

TP104
H-L
TP101
W-R
W-L
TP102
W-L

C7036 1000 25V
R7014 10k
C7038 1000 25V
R7015 10k
R7023 2.2 :FPRD
R7026 2.2 :FPRD
C7034 0.1 :MPS
C7035 0.1 :MPS

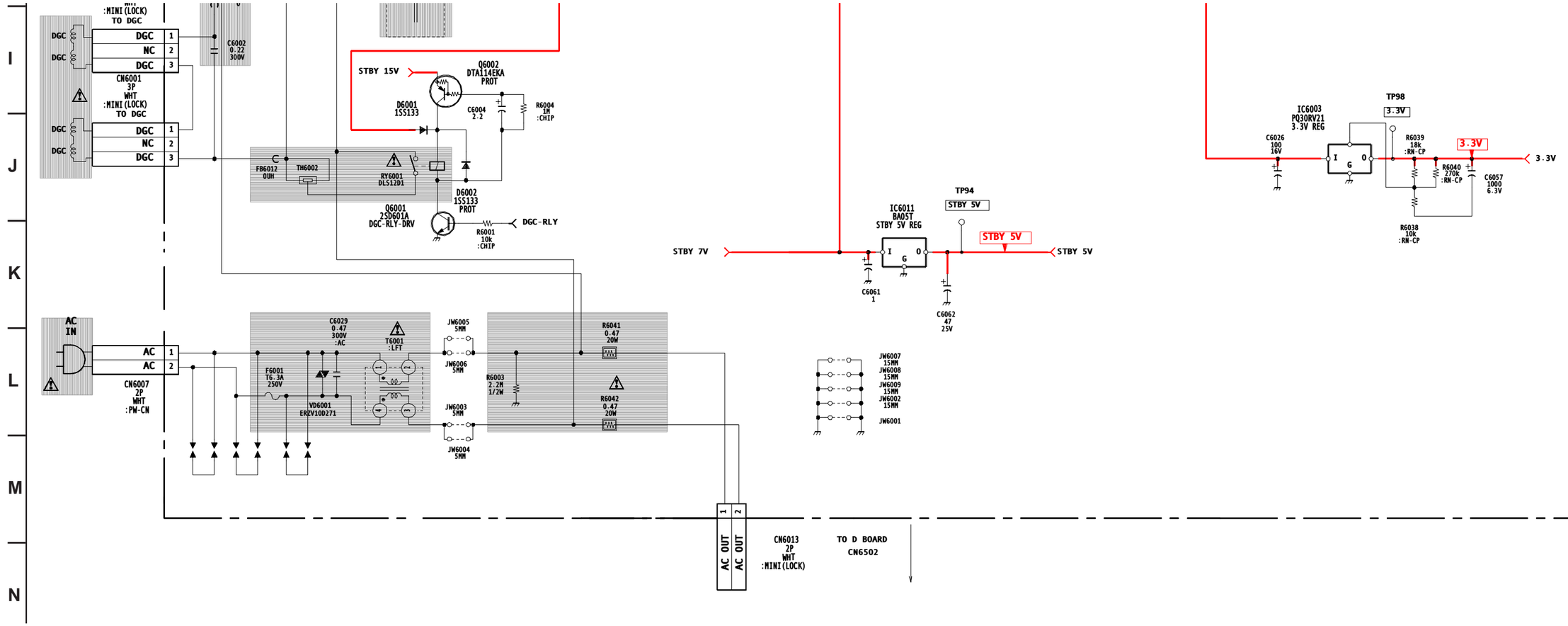
D7014
MTZJ-22B
D7015
MTZJ-22B

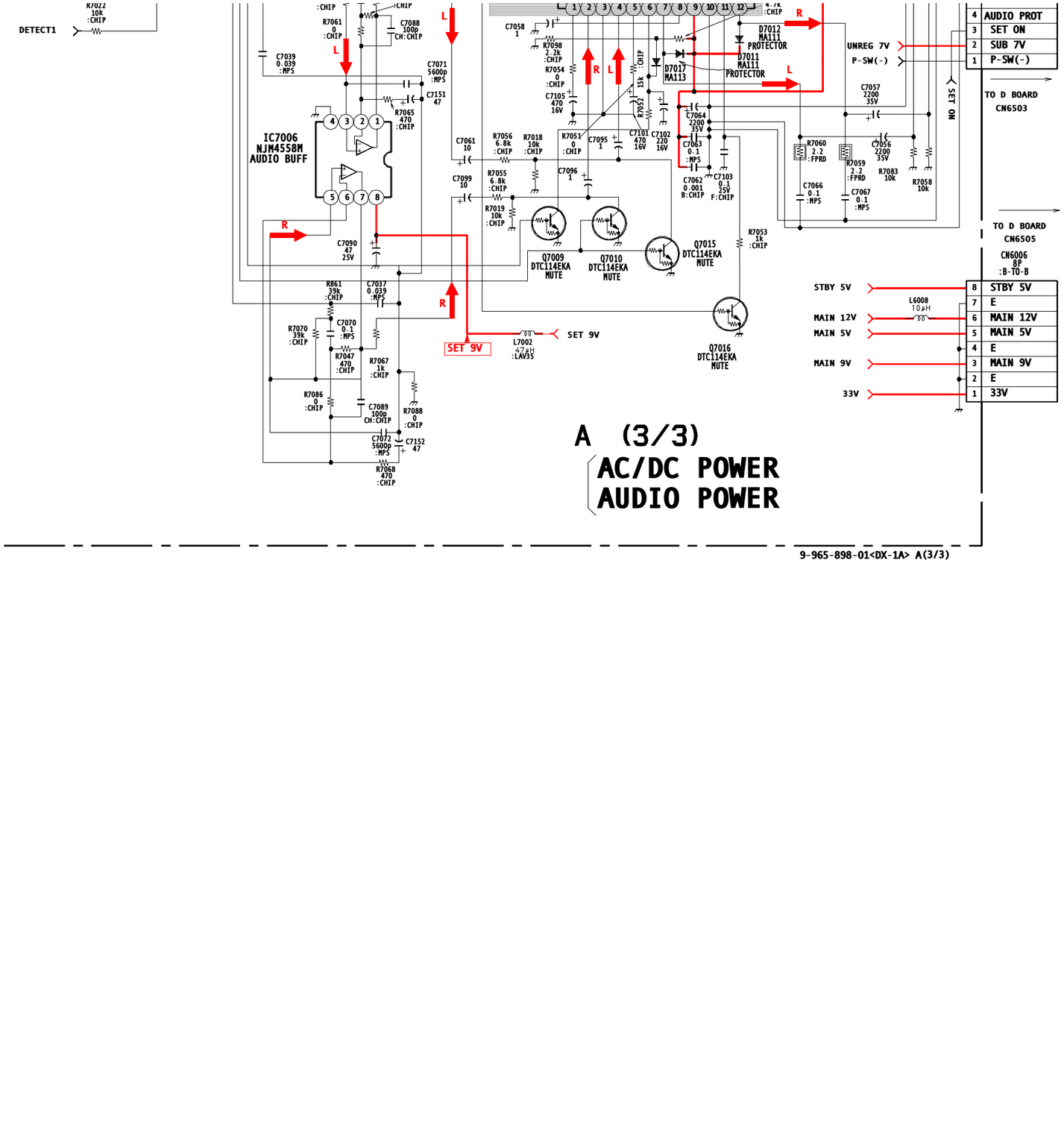
CN7008
8P
BLK
:S-MICRO
SPEAKER OUT

1	W-R-OUT
2	E
3	H-R-OUT
4	E
5	W-L-OUT
6	E
7	H-L-OUT
8	E

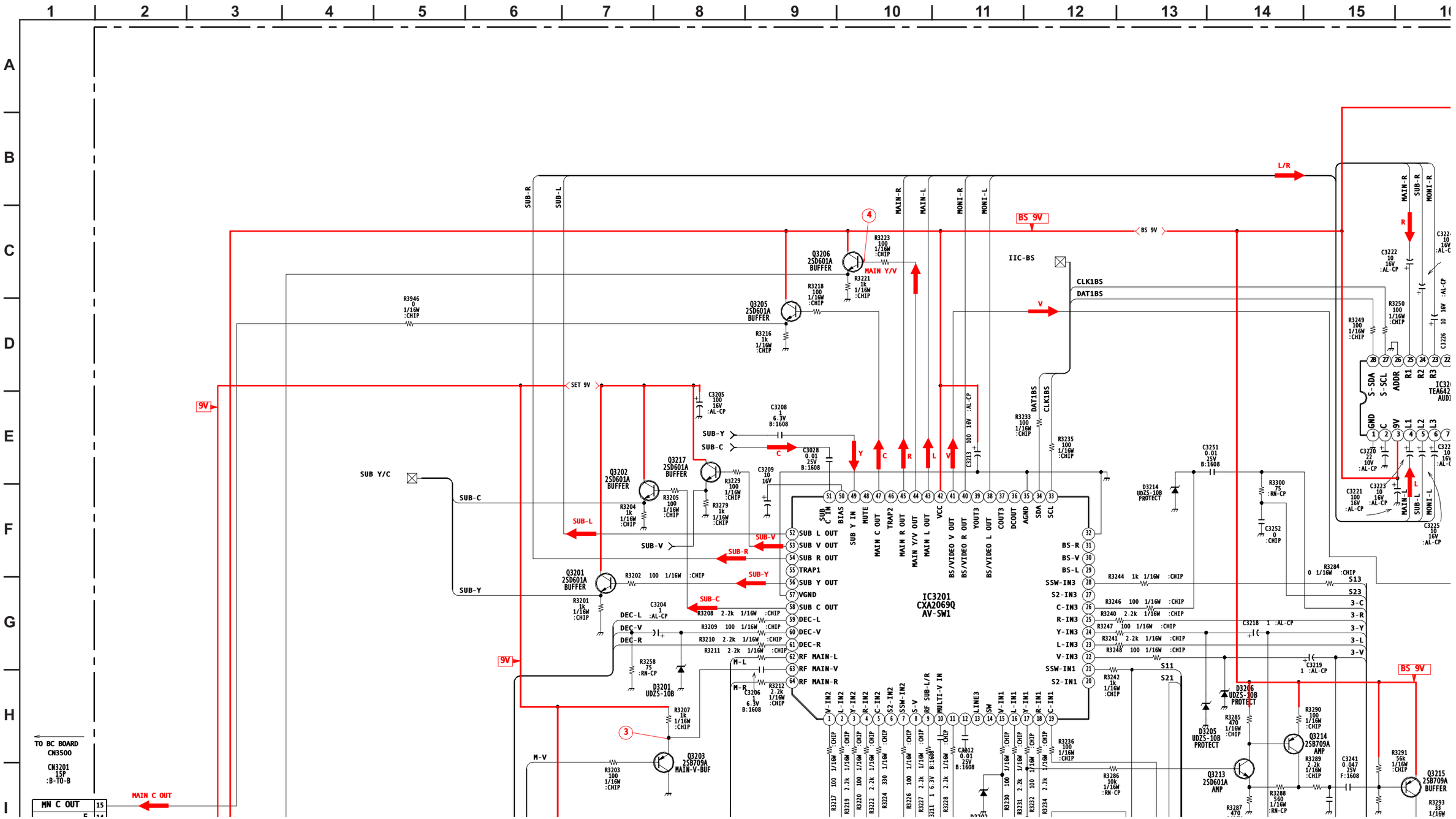
CN7003
8P
WHT
:S-MICRO

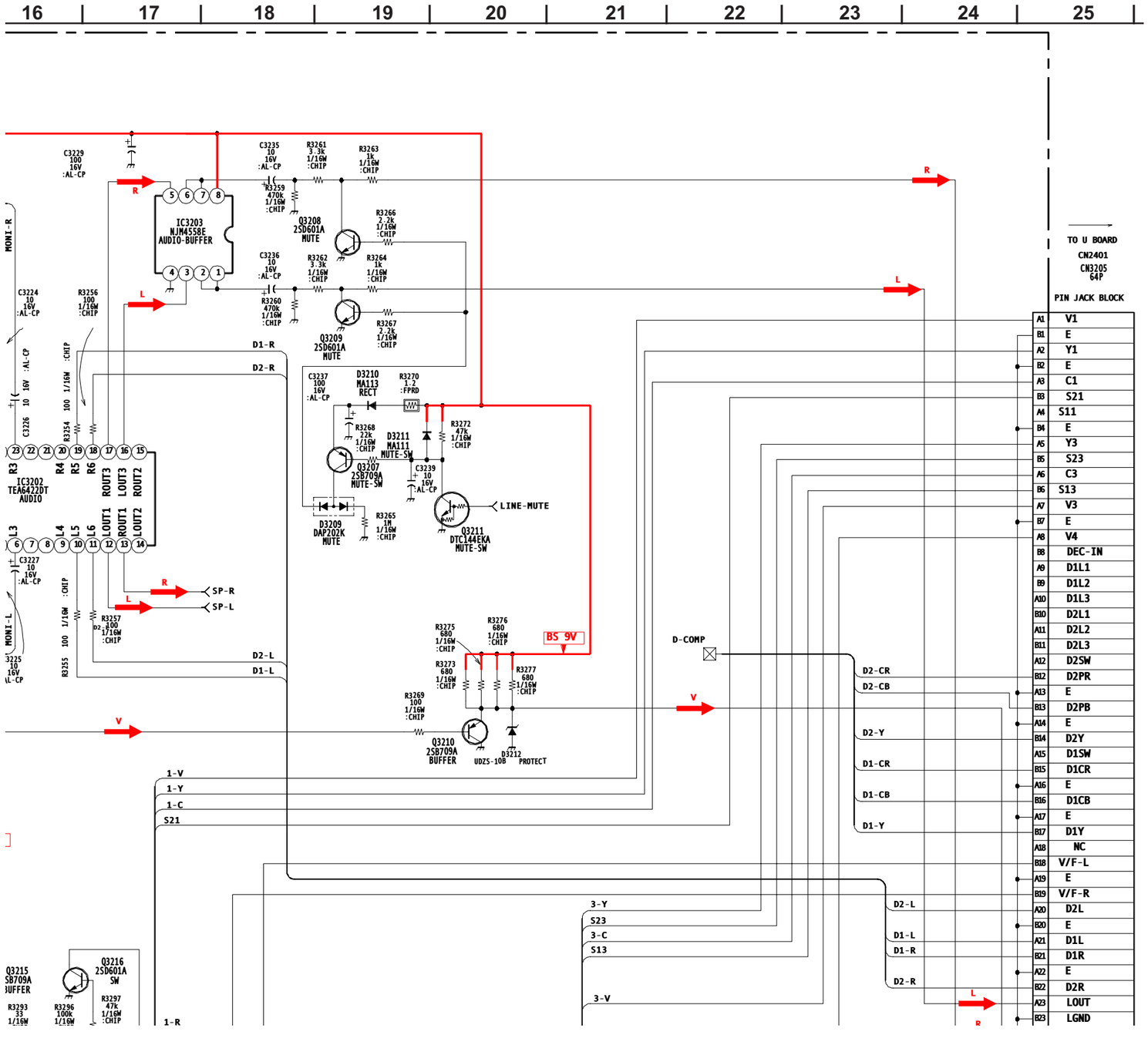
8	AUDIO 24V
7	AUDIO 24V
6	AUDIO GND
5	AUDIO GND
4	AUDIO PROT
3	SET ON

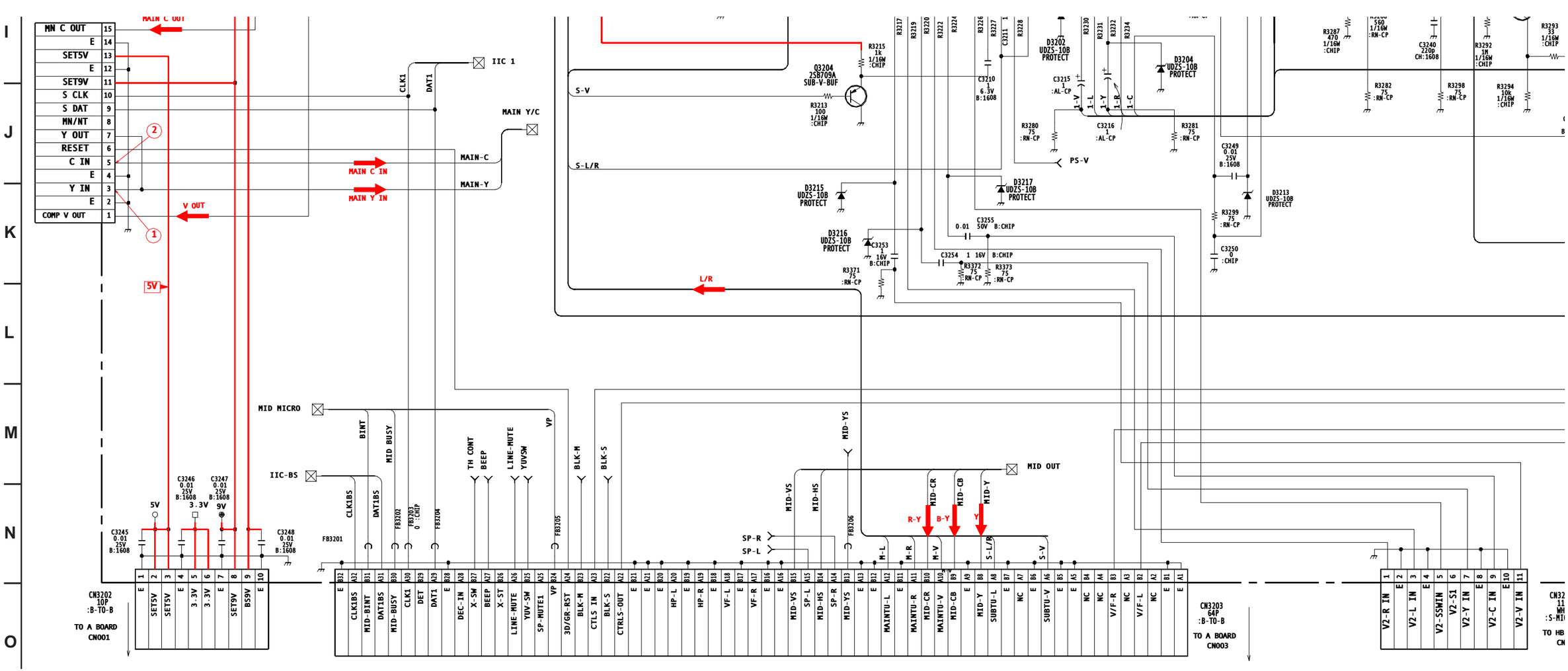

I
J
K
L
M
N
:MINI (LOCK)
TO DGC
DGC
NC
CN6001
3P
WHT
:MINI (LOCK)
TO DGC
C6002
0.22
300V
STBY 15V
Q6002
DTA114EKA
PROT
D6001
1SS133
C6004
2.2
R6004
1M
:CHIP
FB6012
0UH
TH6002
RY6001
DLS12D1
D6002
1SS133
PROT
Q6001
2SD601A
DGC-RLY-DRV
R6001
10k
:CHIP
DGC-RLY
AC
IN
CN6007
2P
WHT
:PW-CN
C6029
0.47
300V
:AC
T6001
:LFT
F6001
T6.3A
250V
VD6001
ERZV10D271
JW6005
5MM
JW6006
5MM
JW6003
5MM
JW6004
5MM
R6003
2.2M
1/2W
R6041
0.47
20W
R6042
0.47
20W
JW6007
15MM
JW6008
15MM
JW6009
15MM
JW6002
15MM
JW6001
STBY 7V
IC6011
BA05T
STBY 5V REG
C6061
1
C6062
47
25V
TP94
STBY 5V
STBY 5V
STBY 5V
IC6003
PQ30RV21
3.3V REG
C6026
100
16V
TP98
3.3V
R6039
18k
:RN-CP
3.3V
R6040
270k
:RN-CP
C6057
1000
6.3V
3.3V
R6038
10k
:RN-CP
AC OUT
AC OUT
CN6013
2P
WHT
:MINI (LOCK)
TO D BOARD
CN6502

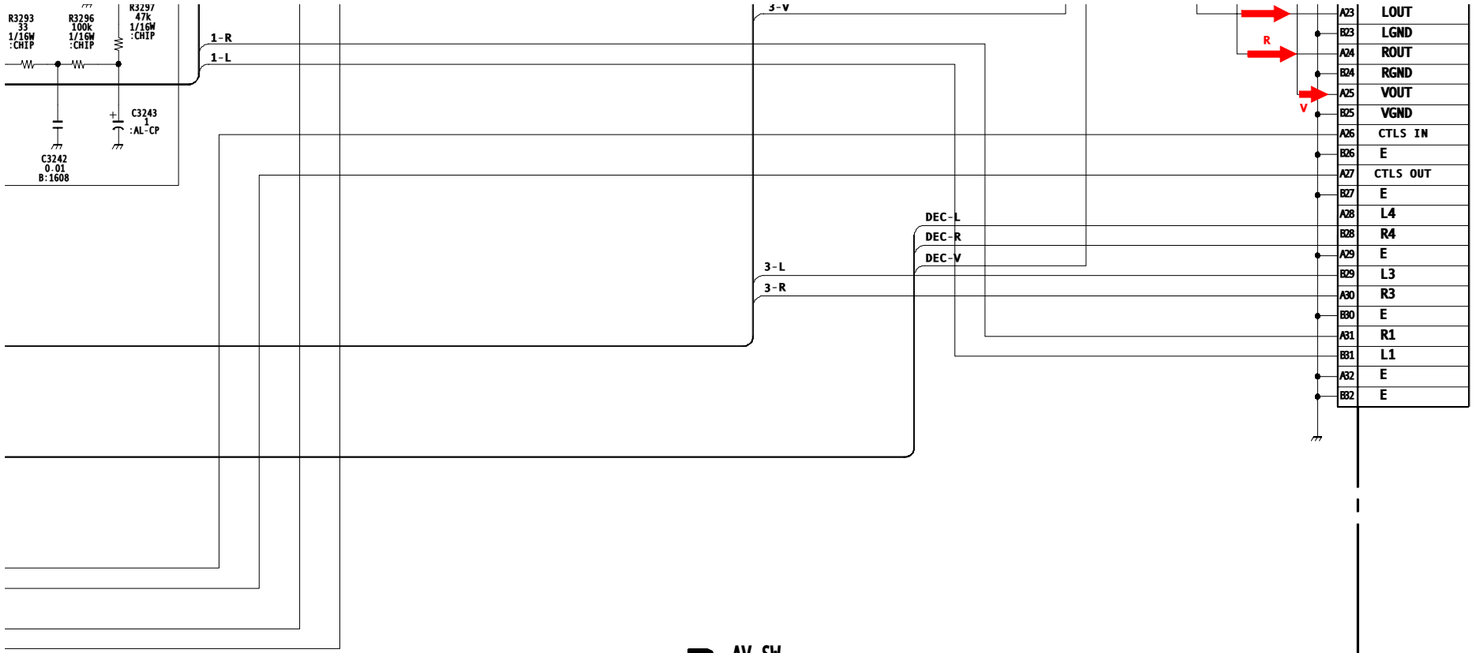

DETECT1
R7022 10k :CHIP
IC7006 NJM4558M AUDIO BUFF
C7039 0.039 :MPS
R7061 0 :CHIP
C7088 100p CH:CHIP
C7071 5600p :MPS
C7151 47
R7065 470 :CHIP
C7090 47 25V
C7058 1
R7098 2.2k :CHIP
R7054 0 :CHIP
C7105 470 16V
R7052 15k :CHIP
D7012 MA111 PROTECTOR
D7011 MA111 PROTECTOR
D7017 MA113
C7064 2200 35V
C7063 0.1 :MPS
C7062 0.001 B:CHIP
C7103 0.1 25V F:CHIP
R7060 2.2 :FPRD
R7059 2.2 :FPRD
C7066 0.1 :MPS
C7067 0.1 :MPS
C7057 2200 35V
C7056 2200 35V
R7083 10k
R7058 10k
UNREG 7V
P-SW(-)
SET ON
C7061 10
C7099 10
R7056 6.8k :CHIP
R7055 6.8k :CHIP
R7018 10k :CHIP
R7019 10k :CHIP
R7051 0 :CHIP
C7095 1
C7096 1
C7101 470 16V
C7102 220 16V
Q7009 DTC114EKA MUTE
Q7010 DTC114EKA MUTE
Q7015 DTC114EKA MUTE
Q7016 DTC114EKA MUTE
R7053 1k :CHIP
R861 39k :CHIP
C7037 0.039 :MPS
R7070 39k :CHIP
C7070 0.1 :MPS
R7047 470 :CHIP
R7067 1k :CHIP
R7086 0 :CHIP
C7089 100p CH:CHIP
R7088 0 :CHIP
C7072 5600p :MPS
C7152 47
R7068 470 :CHIP
SET 9V
L7002 4.7µH :LAV35
L6008 10µH
STBY 5V
MAIN 12V
MAIN 5V
MAIN 9V
33V
4 AUDIO PROT
3 SET ON
2 SUB 7V
1 P-SW(-)
TO D BOARD CN6503
TO D BOARD CN6505
CN6006 8P :B-TO-B
8 STBY 5V
7 E
6 MAIN 12V
5 MAIN 5V
4 E
3 MAIN 9V
2 E
1 33V
A (3/3)
AC/DC POWER
AUDIO POWER
9-965-898-01<DX-1A> A(3/3)

B BOARD SCHEMATIC DIAGRAM (1 OF 4)




16
17
18
19
20
21
22
23
24
25
IC3203
NJM4558E
AUDIO-BUFFER
Q3208
2SD601A
MUTE
Q3209
2SD601A
MUTE
IC3202
TEA6422DT
AUDIO
Q3207
2SB709A
MUTE-SW
Q3211
DTC144EKA
MUTE-SW
LINE-MUTE
D3209
DAP202K
MUTE
D3210
MA113
RECT
D3211
MA111
MUTE-SW
Q3210
2SB709A
BUFFER
D3212
UDZS-10B
PROTECT
BS 9V
D-COMP
SP-R
SP-L
MONI-R
MONI-L
D1-R
D2-R
D2-L
D1-L
1-V
1-Y
1-C
S21
3-Y
S23
3-C
S13
3-V
1-R
Q3215
SB709A
UFFER
Q3216
2SD601A
SW
TO U BOARD
CN2401
CN3205
64P
PIN JACK BLOCK
A1 V1
B1 E
A2 Y1
B2 E
A3 C1
B3 S21
A4 S11
B4 E
A5 Y3
B5 S23
A6 C3
B6 S13
A7 V3
B7 E
A8 V4
B8 DEC-IN
A9 D1L1
B9 D1L2
A10 D1L3
B10 D2L1
A11 D2L2
B11 D2L3
A12 D2SW
B12 D2PR
A13 E
B13 D2PB
A14 E
B14 D2Y
A15 D1SW
B15 D1CR
A16 E
B16 D1CB
A17 E
B17 D1Y
A18 NC
B18 V/F-L
A19 E
B19 V/F-R
A20 D2L
B20 E
A21 D1L
B21 D1R
A22 E
B22 D2R
A23 LOUT
B23 LGND


MN C OUT 15
E 14
SET5V 13
E 12
SET9V 11
S CLK 10
S DAT 9
MN/NT 8
Y OUT 7
RESET 6
C IN 5
E 4
Y IN 3
E 2
COMP V OUT 1
MAIN C OUT
IIC 1
CLK1
DAT1
MAIN Y/C
MAIN-C
MAIN-Y
MAIN C IN
MAIN Y IN
V OUT
5V
S-V
S-L/R
L/R
Q3204 2SB709A SUB-V-BUF
R3215 1k 1/16W :CHIP
R3213 100 1/16W :CHIP
D3202 UDZS-10B PROTECT
D3204 UDZS-10B PROTECT
D3215 UDZS-10B PROTECT
D3217 UDZS-10B PROTECT
D3216 UDZS-10B PROTECT
D3213 UDZS-10B PROTECT
C3210 6.3V B:1608
C3215 :AL-CP
C3216 1 :AL-CP
C3249 0.01 25V B:1608
C3255 0.01 50V B:CHIP
C3254 1 16V B:CHIP
C3253 1 16V B:CHIP
C3250 0 :CHIP
R3280 75 :RN-CP
R3281 75 :RN-CP
R3299 75 :RN-CP
R3371 75 :RN-CP
R3372 75 :RN-CP
R3373 75 :RN-CP
PS-V
R3287 470 1/16W :CHIP
R3282 75 :RN-CP
C3240 220p CH:1608
R3298 75 :RN-CP
R3292 1M 1/16W :CHIP
R3294 10k 1/16W :CHIP
R3293 33 1/16W :CHIP
C3245 0.01 25V B:1608
C3246 0.01 25V B:1608
C3247 0.01 25V B:1608
C3248 0.01 25V B:1608
5V
3.3V
9V
MID MICRO
IIC-BS
BINT
MID BUSY
TH CONT
BEEP
LINE-MUTE
YUVSW
VP
BLK-M
BLK-S
MID-YS
MID OUT
MID-VS
MID-HS
MID-CR
MID-CB
MID-Y
R-Y
B-Y
Y
SP-R
SP-L
M-L
M-R
M-V
S-L/R
S-V
CLK1BS
DAT1BS
FB3201
FB3202
FB3203 0 :CHIP
FB3204
FB3205
FB3206
CN3202 10P :B-TO-B
TO A BOARD CN001
CN3203 64P :B-TO-B
TO A BOARD CN003
V2-R IN
V2-L IN
V2-SSWIN
V2-S1
V2-Y IN
V2-C IN
V2-V IN



B AV-SW
MID XA
YUV SW
MID-UCOM
COMPONENT-J/F
YCT-MAIN/YCT-SUB

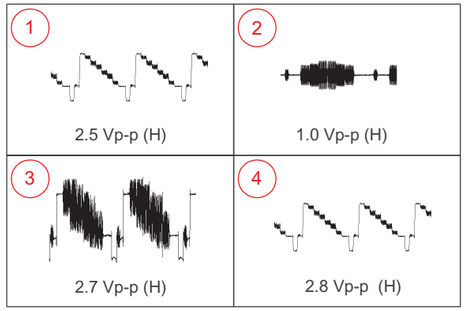
B (1/4)

9-965-898-01<DX-1A> B(1/4)

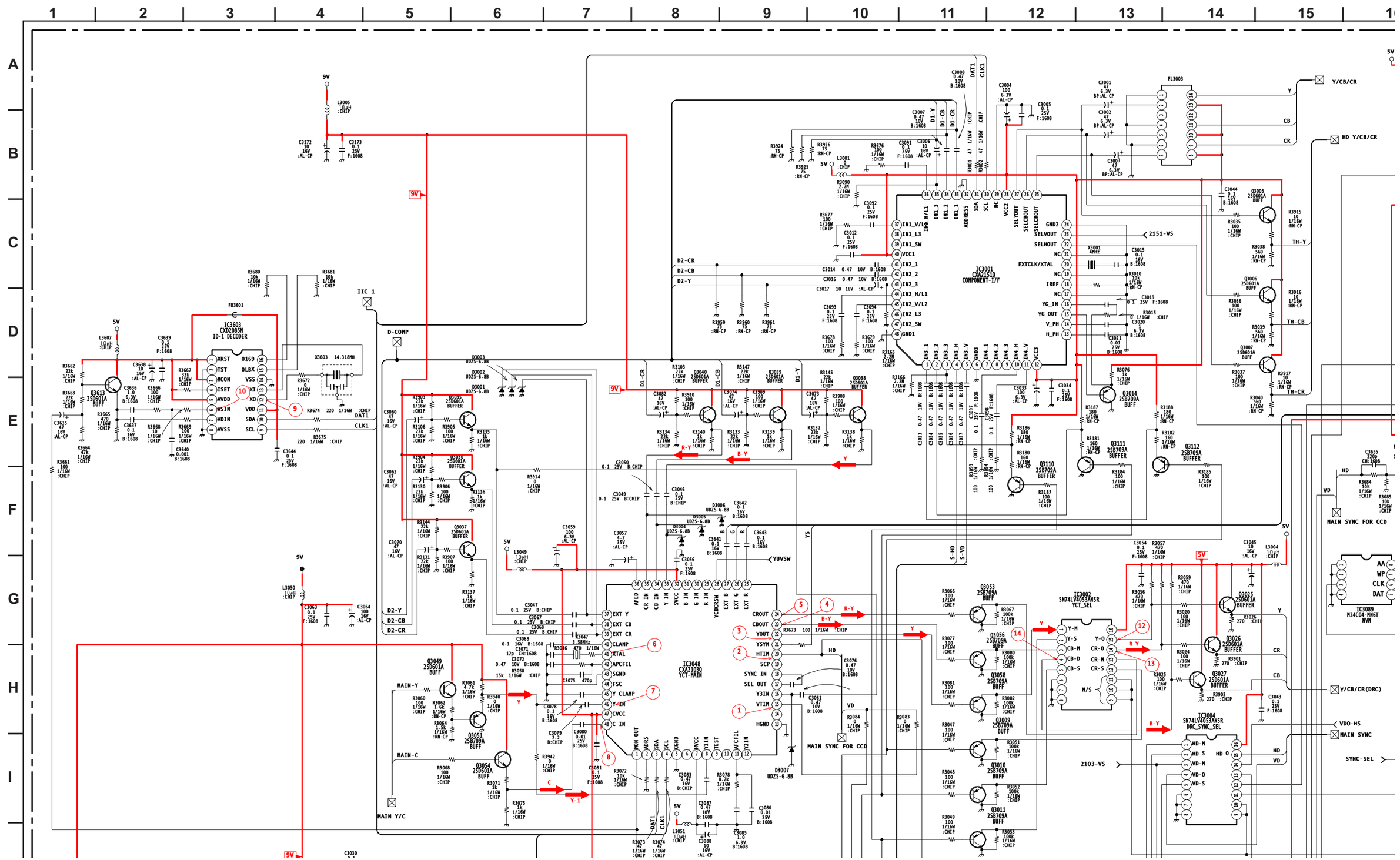
CN3204
11P
WHT
:S-MICRO

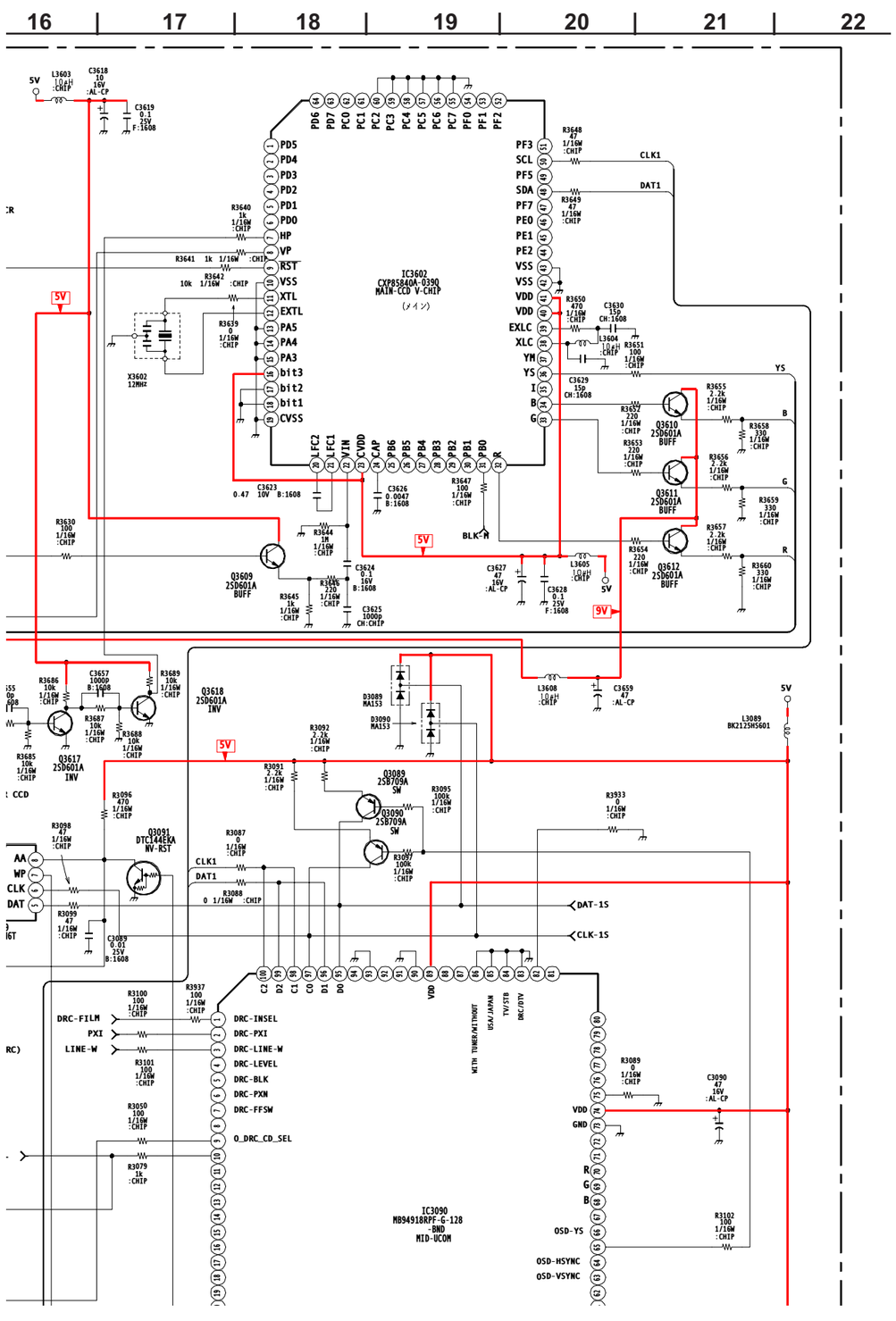
TO HB BOARD
CN4503

B BOARD WAVEFORMS (1 OF 4)

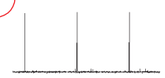
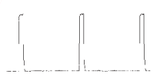
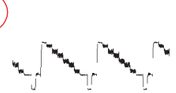
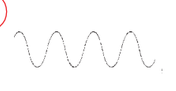
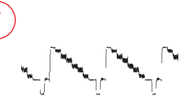
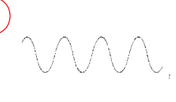
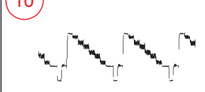
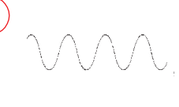
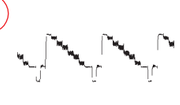
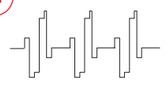


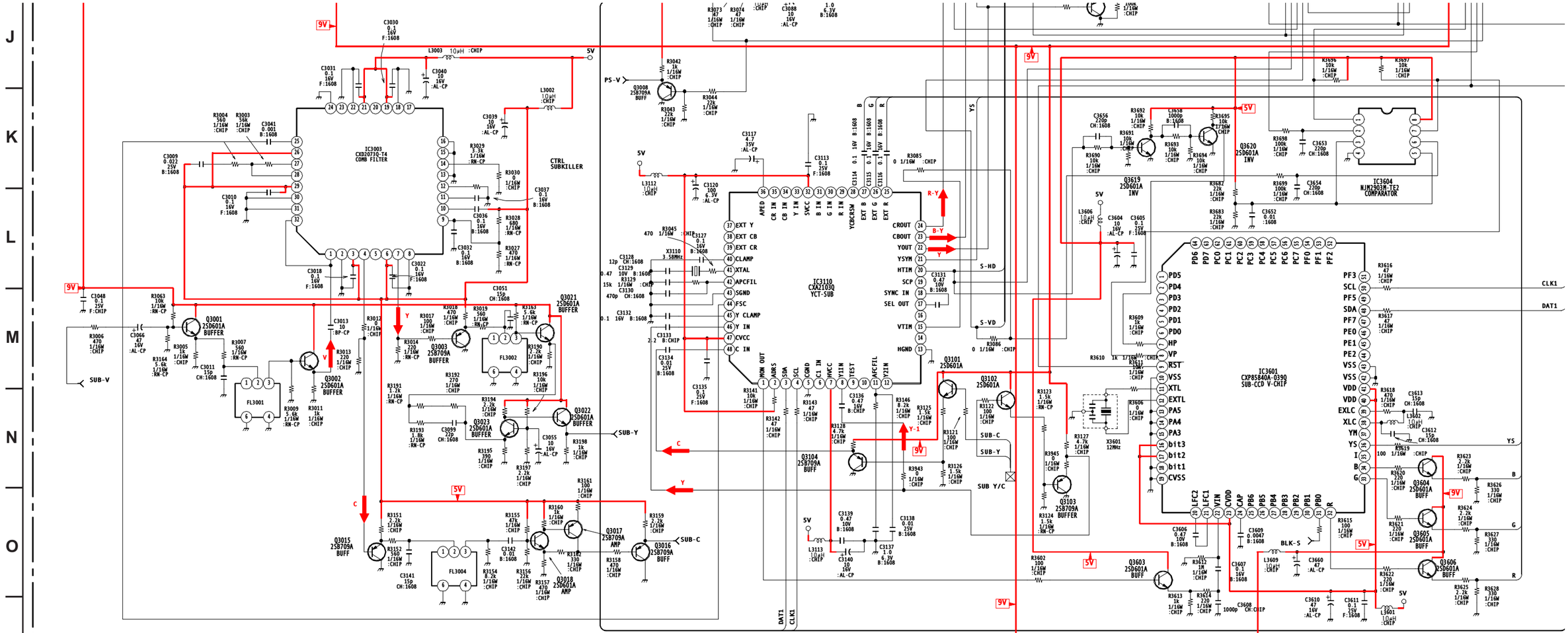
B BOARD SCHEMATIC DIAGRAM (2 OF 4)

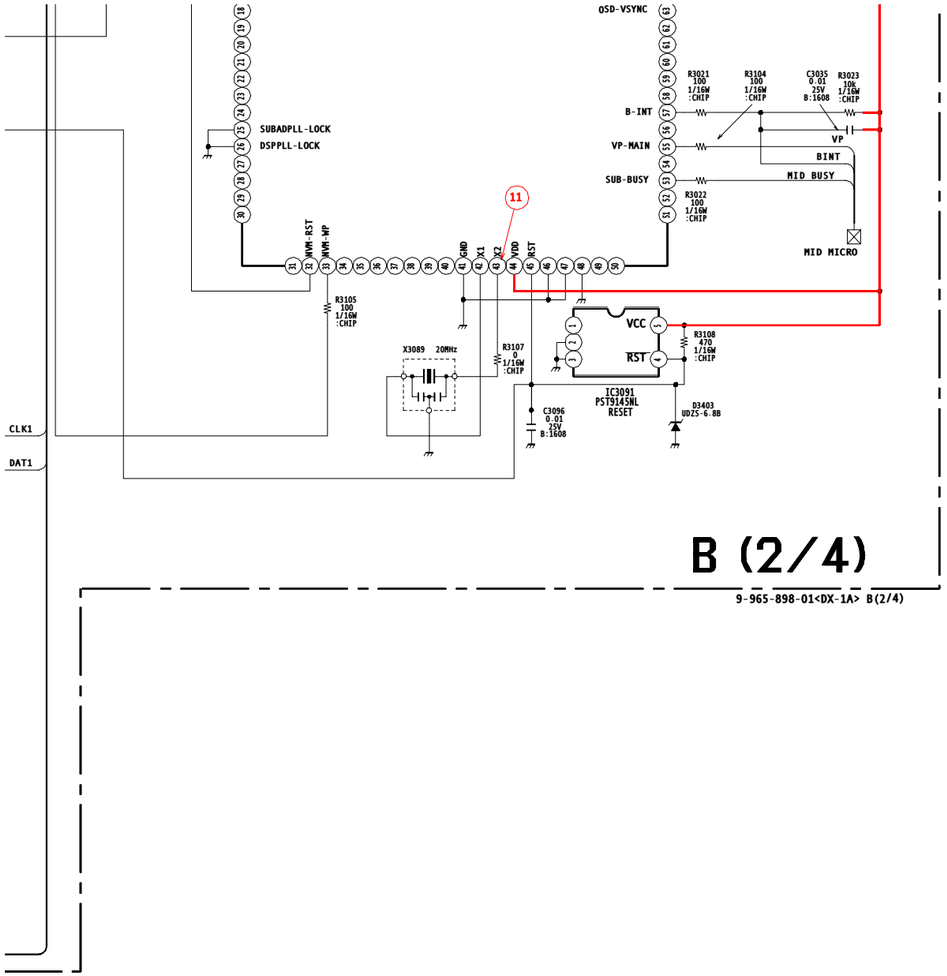




B BOARD WAVEFORMS (2 OF 4)

1  3.5 Vp-p (V)	2  3.7 Vp-p (H)	3  1.5 Vp-p (H)
4 1.2 Vp-p (H)	5 1.3 Vp-p (H)	6  0.2 Vp-p (3.58MHz)
7  1.2 Vp-p (H)	8 0.8 Vp-p (H)	9  4.8 Vp-p (14.3MHz)
10  1.0 Vp-p (H)	11  2.4 Vp-p (20MHz)	12  1.5 Vp-p (H)
13 1.3 Vp-p (H)	14  1.3 Vp-p (H).	

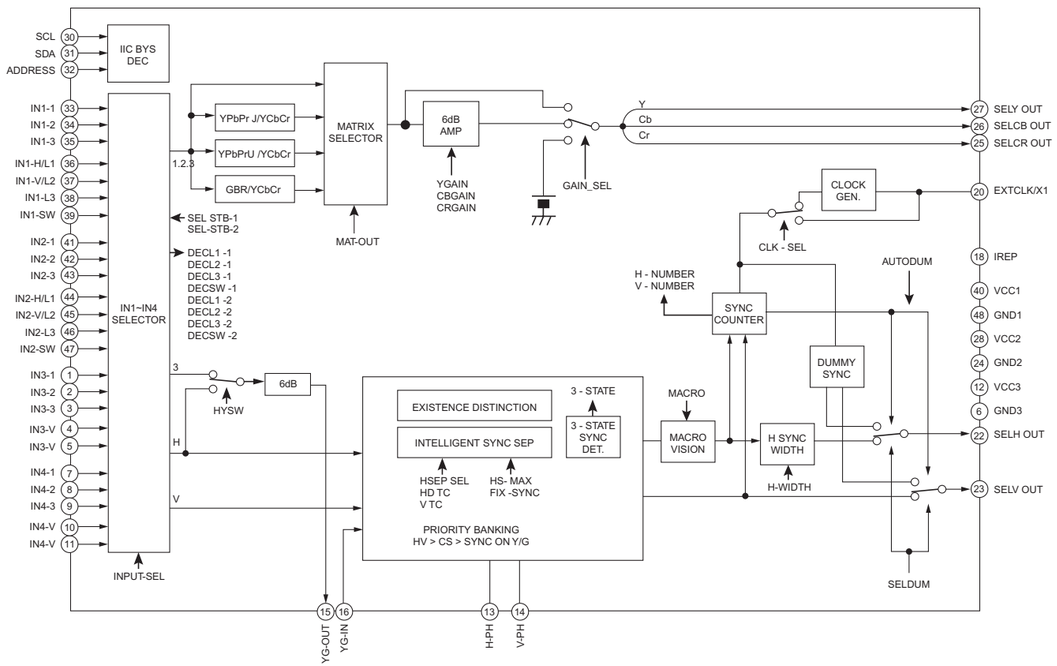

IC3003
CXD2073Q-T4
COMB FILTER
CTRL
SUBKILLER
IC3110
CXA2103Q
YCT-SUB
IC3601
CXP85840A-039Q
SUB-CCD V-CHIP
IC3604
NJM2903M-TE2
COMPARATOR
Q3620
2SD601A
INV
Q3619
2SD601A
INV
Q3001
2SD601A
BUFFER
Q3002
2SD601A
BUFFER
Q3003
2SB709A
BUFFER
Q3021
2SD601A
BUFFER
Q3022
2SD601A
BUFFER
Q3023
2SD601A
BUFFER
Q3015
2SB709A
BUFF
Q3016
2SB709A
BUFF
Q3017
2SB709A
AMP
Q3018
2SD601A
AMP
Q3008
2SB709A
BUFF
Q3101
2SD601A
Q3102
2SD601A
Q3104
2SB709A
BUFF
Q3103
2SB709A
BUFFER
Q3603
2SD601A
BUFF
Q3604
2SD601A
BUFF
Q3605
2SD601A
BUFF
Q3606
2SD601A
BUFF
FL3001
FL3002
FL3004
X3110
3.58MHz
X3601
12MHz
9V
5V
SUB-V
SUB-Y
SUB-C
SUB Y/C
PS-V
R-Y
B-Y
Y
S-HD
S-VD
Y-1
CLK1
DAT1
BLK-S



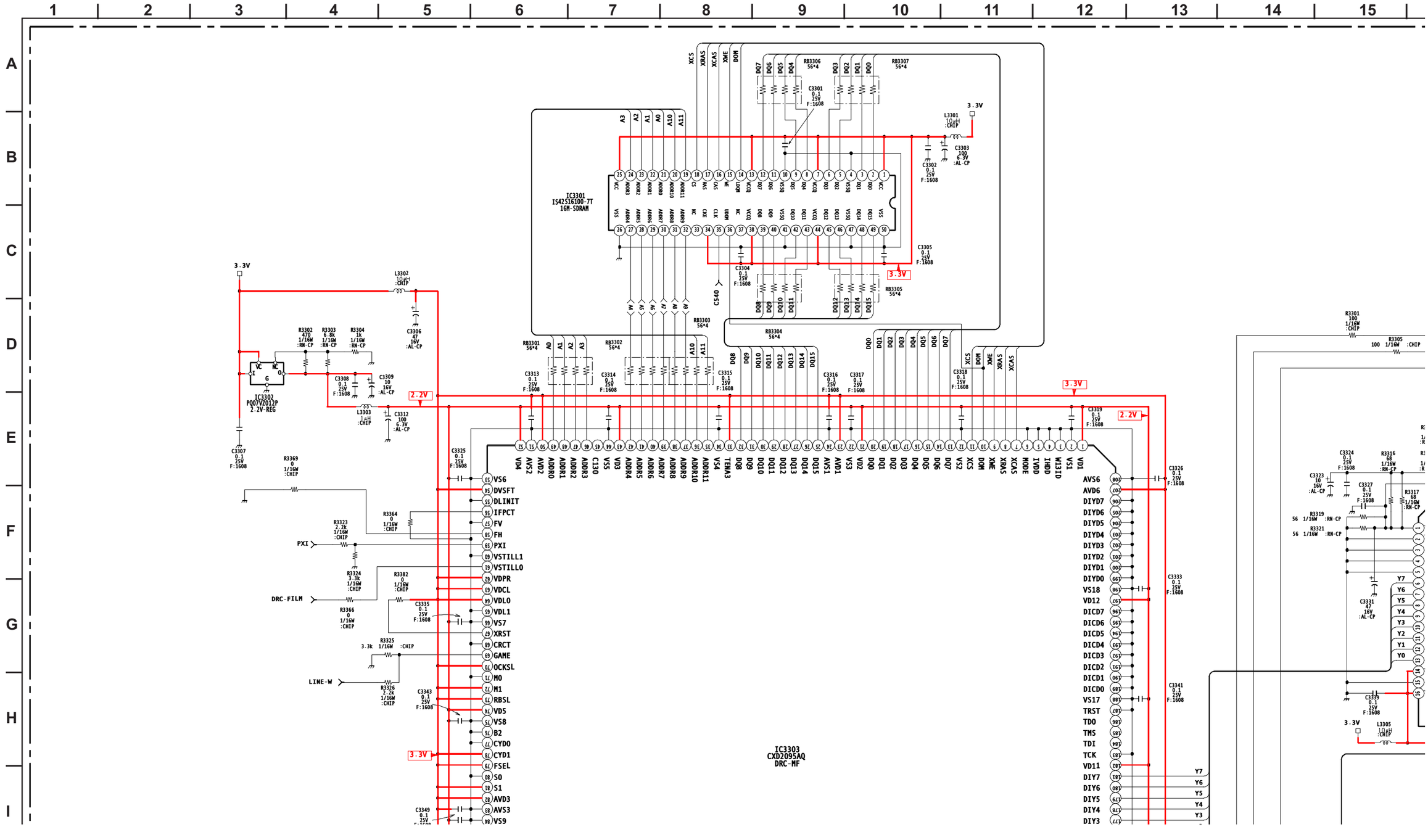
B (2/4)

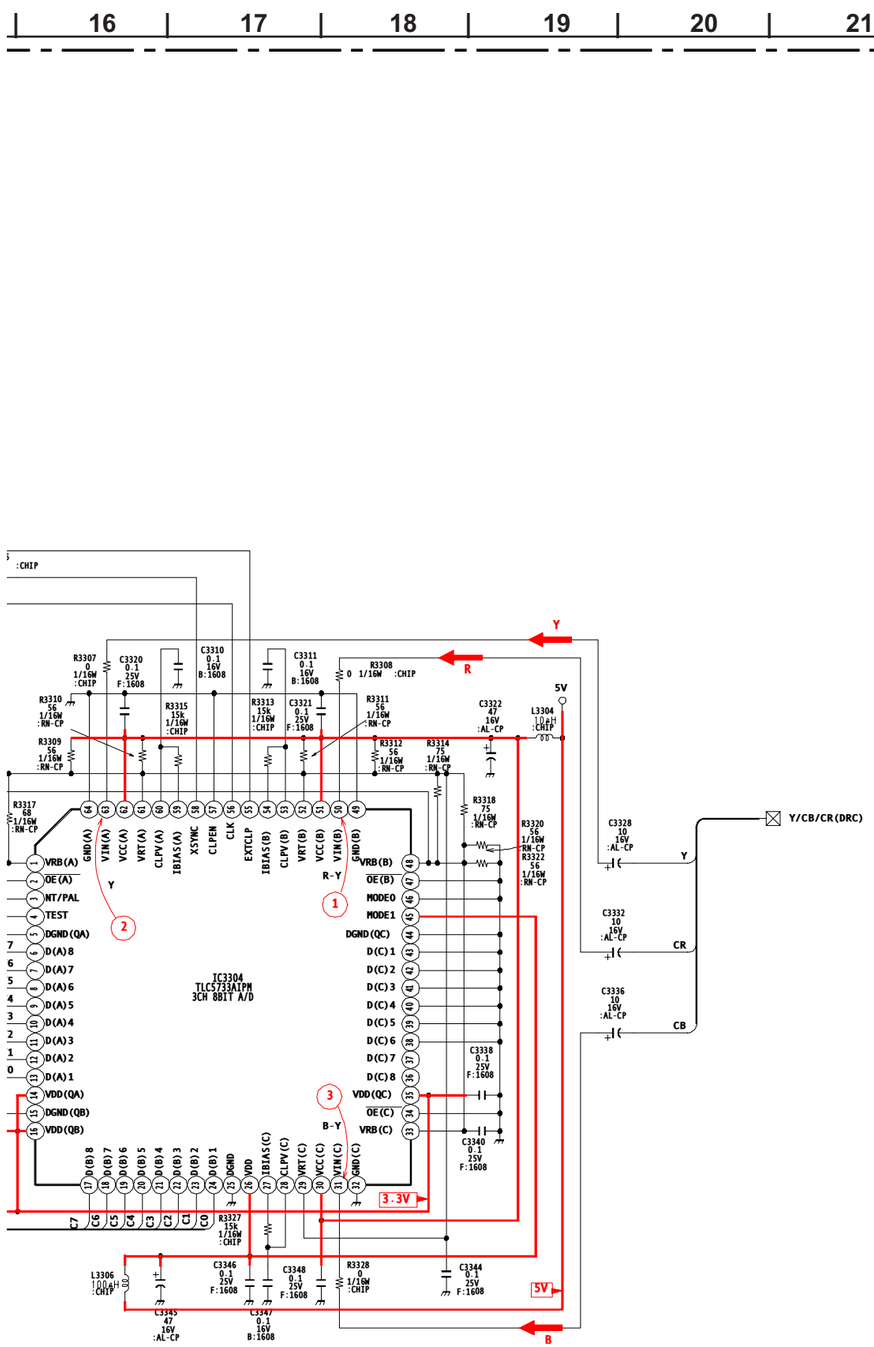
9-965-898-01<DX-1A> B(2/4)

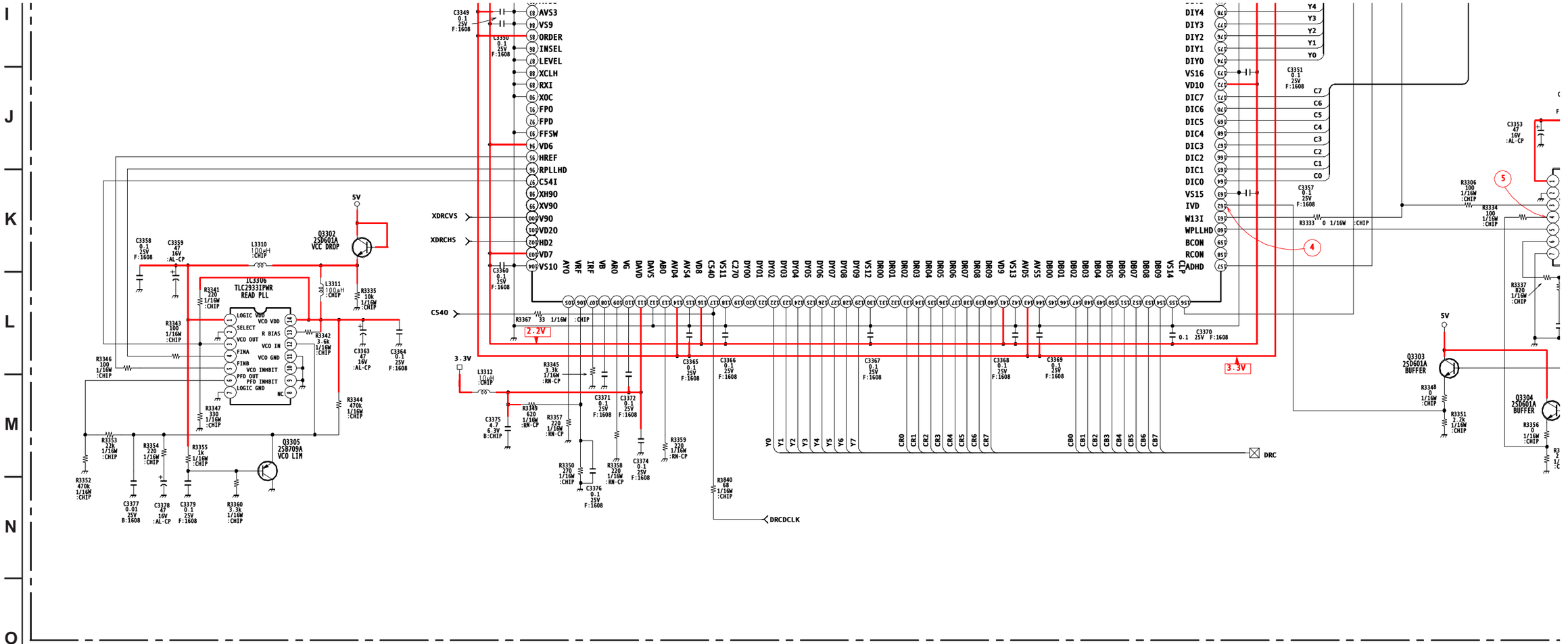
B BOARD: IC3001 CXA2151Q

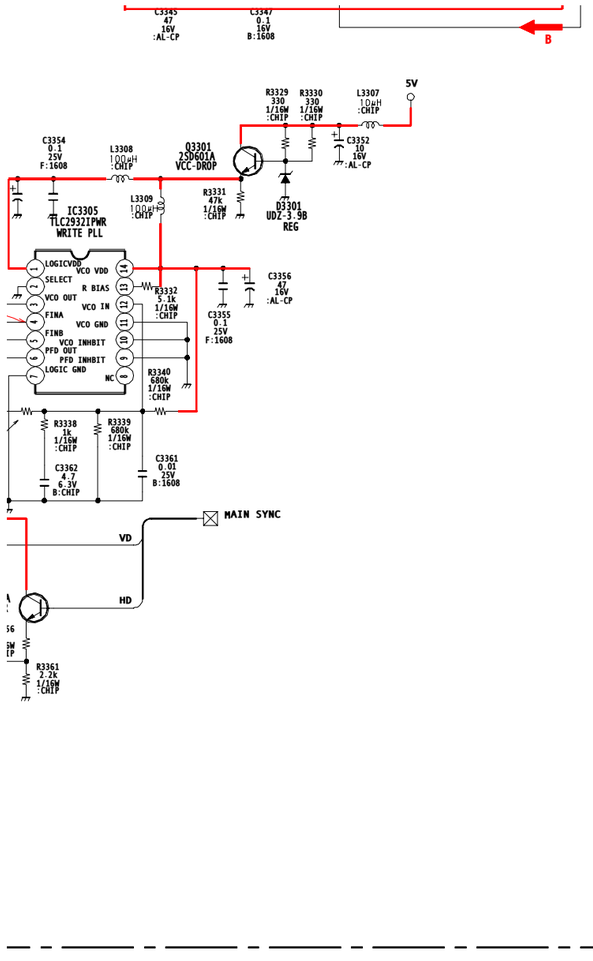


B BOARD SCHEMATIC DIAGRAM (3 OF 4)




16
17
18
19
20
21
22
23
IC3304
TLC5733AIPM
3CH 8BIT A/D
Y
R-Y
B-Y
R
B
5V
3.3V
Y/CB/CR(DRC)
CR
CB

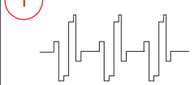
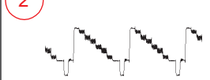
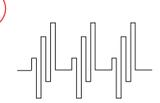
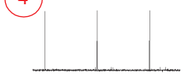
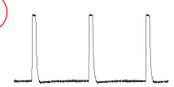

AVS3
VS9
ORDER
INSEL
LEVEL
XCLH
RXI
XOC
FPO
FPD
FFSW
VD6
HREF
RPLLHD
C54I
XH90
XV90
V90
VD20
HD2
VD7
VS10
XDRCVS
XDRCHS
C540
3.3V
5V
DIY4
DIY3
DIY2
DIY1
DIY0
VS16
VD10
DIC7
DIC6
DIC5
DIC4
DIC3
DIC2
DIC1
DIC0
VS15
IVD
W13I
WPLLHD
BCON
RCON
ADHD
Y4
Y3
Y2
Y1
Y0
C7
C6
C5
C4
C3
C2
C1
C0
2.2V
3.3V
DRC
DRCDCLK
Q3302
2SD601A
VCC DROP
Q3303
2SD601A
BUFFER
Q3304
2SD601A
BUFFER
Q3305
2SB709A
VCO LIM
TLC2933IPWR
READ PLL
LOGIC VDD
SELECT
VCO OUT
FINA
FINB
PFD OUT
LOGIC GND
VCO VDD
R BIAS
VCO IN
VCO GND
VCO INHBIT
PFD INHBIT
NC
4
5



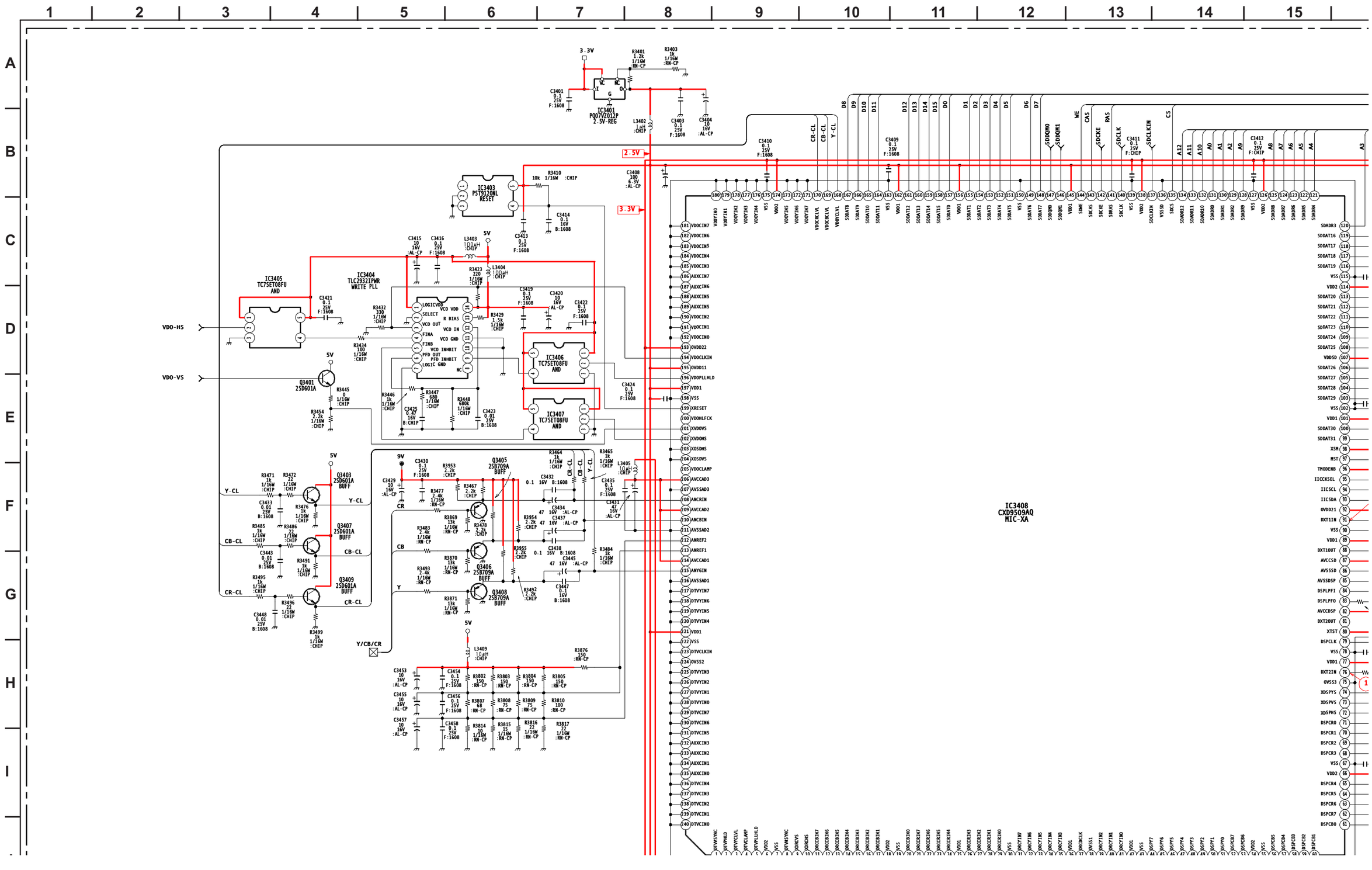
B (3/4)

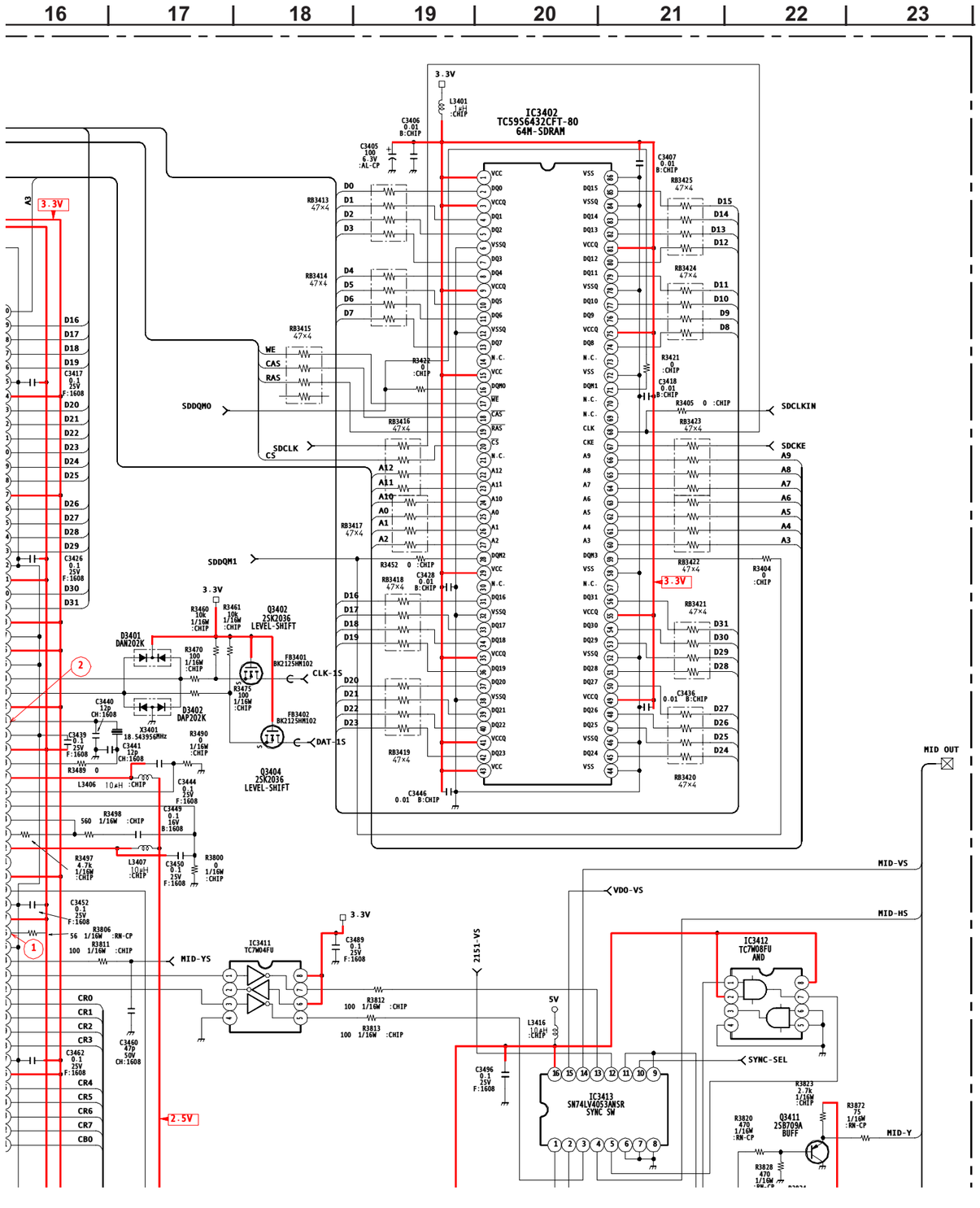
9-965-898-01<DX-1A> B(3/4)

B BOARD WAVEFORMS (3 OF 4)

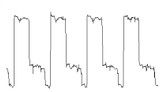
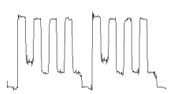
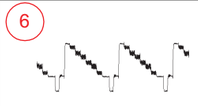
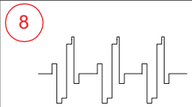
1  1.3 Vp-p (H)	2  1.5 Vp-p (H)	3  1.1 Vp-p (H)
4  3.3 Vp-p (V)	5  3.5 Vp-p (H)	

B BOARD SCHEMATIC DIAGRAM (4 OF 4)

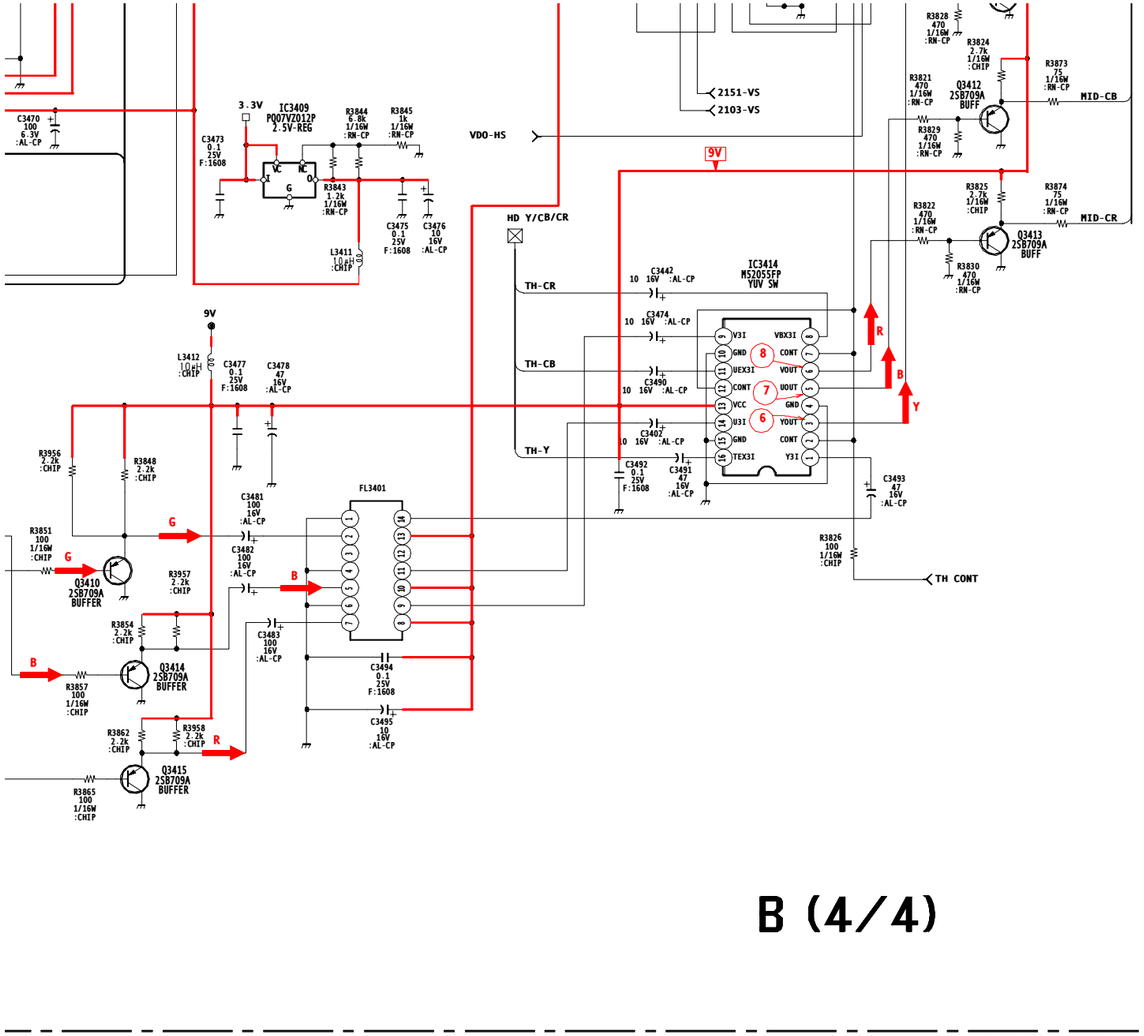




B BOARD WAVEFORMS (4 OF 4)

1 3.0 Vp-p (V)	2 3.0 Vp-p (V)	3 1.6 Vp-p (H)
4  1.8 Vp-p (H)	5  1.3 Vp-p (H)	6  1.5 Vp-p (H)
7 1.2 Vp-p (H)	8  1.4 Vp-p (H).	

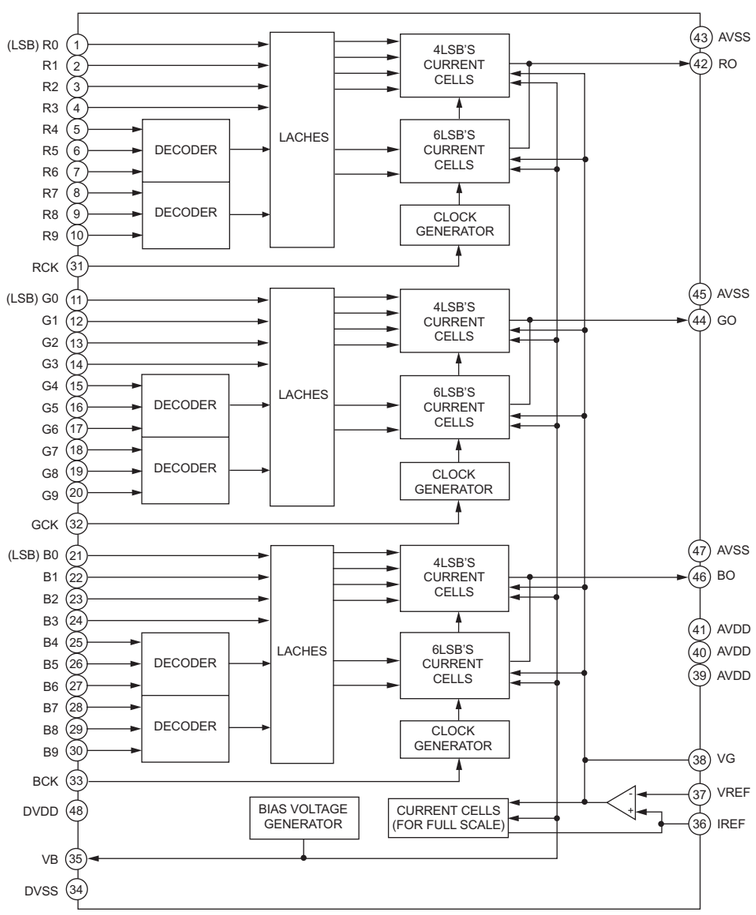
3.3V
L3410
1uH
:CHIP
C3468
100
6.3V
:AL-CP
C3469
0.1
25V
F:1608
2.5V
C3465
0.1
25V
F:1608
C3464
0.1
25V
F:1608
C3467
0.1
25V
F:1608
C3470
100
6.3V
:AL-CP
RB3407
33*4
RB3412
33*4
RB3411
33*4
RB3410
33*4
RB3409
33*4
RB3408
33*4
R3846
22
1/16W
:CHIP
R3847 22 1/16W :CHIP
DRC
DRCDCLK
XDRCHS
XDRCVS
IC3410
CXD2309Q
D/A
RB3401
33*4
RB3402
33*4
RB3403
33*4
RB3404
33*4
RB3405
33*4
RB3406
33*4
5V
C3479
10
16V
:AL-CP
L3413
10uH
:CHIP
C3480
0.1
25V
F:1608
R3831 0 1/16W :CHIP
R3832 0 1/16W :CHIP
R3833 0 1/16W :CHIP
R3849
200
1/16W
:RN-CP
R3850
200
1/16W
:RN-CP
R3852
200
1/16W
:RN-CP
R3866
R3867
R3868
C3484
6.3V
B:1608
R3858
3.3k
1/16W
:RN-CP
R3863
2.2k
1/16W
:RN-CP
C3487
0.1
25V
F:1608
R3864
3.3k
1/16W
:CHIP
C3485
0.1
25V
F:1608
C3486
0.1
25V
F:1608
C3488
10
16V
:AL-CP
L3414
10uH
:CHIP
B
G
R



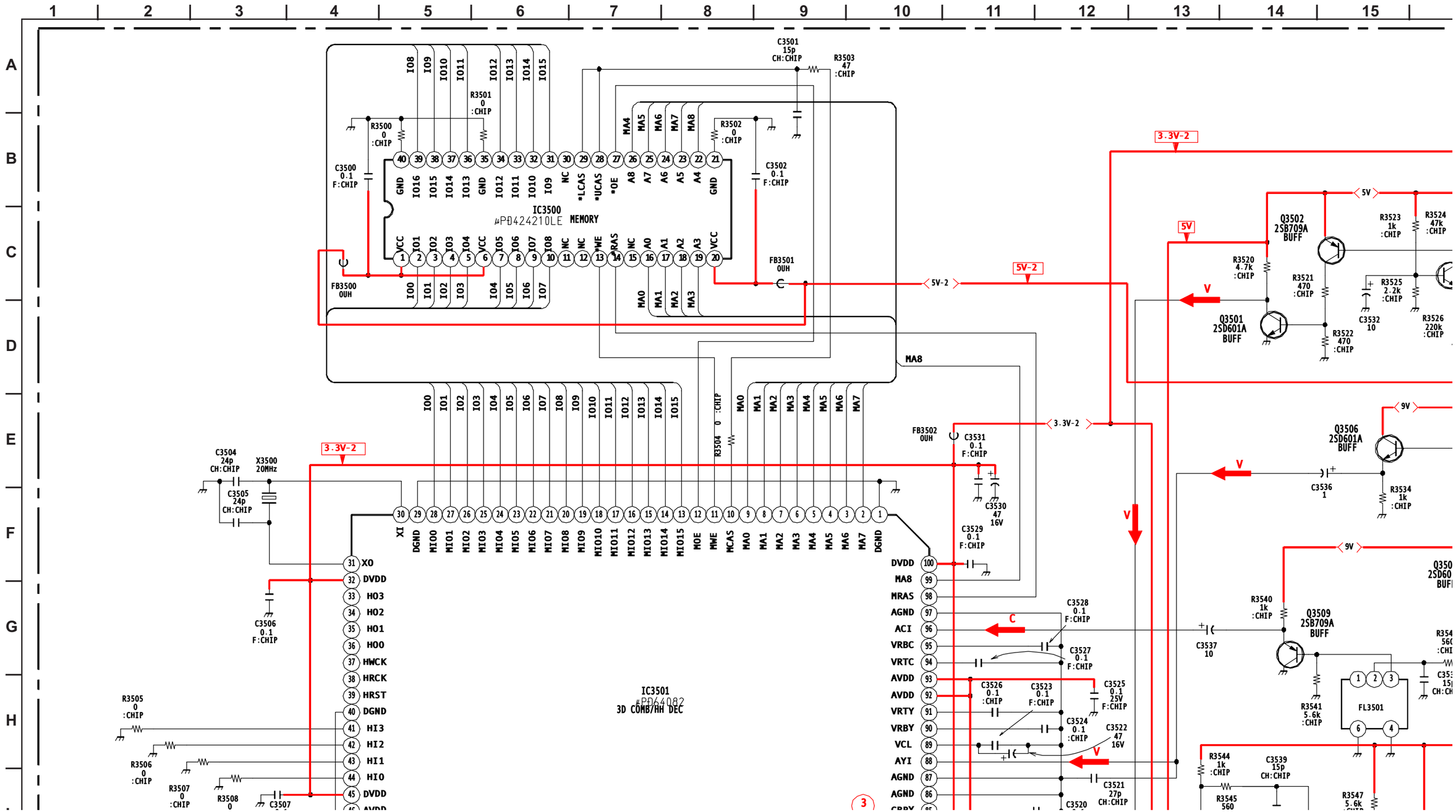
B (4/4)

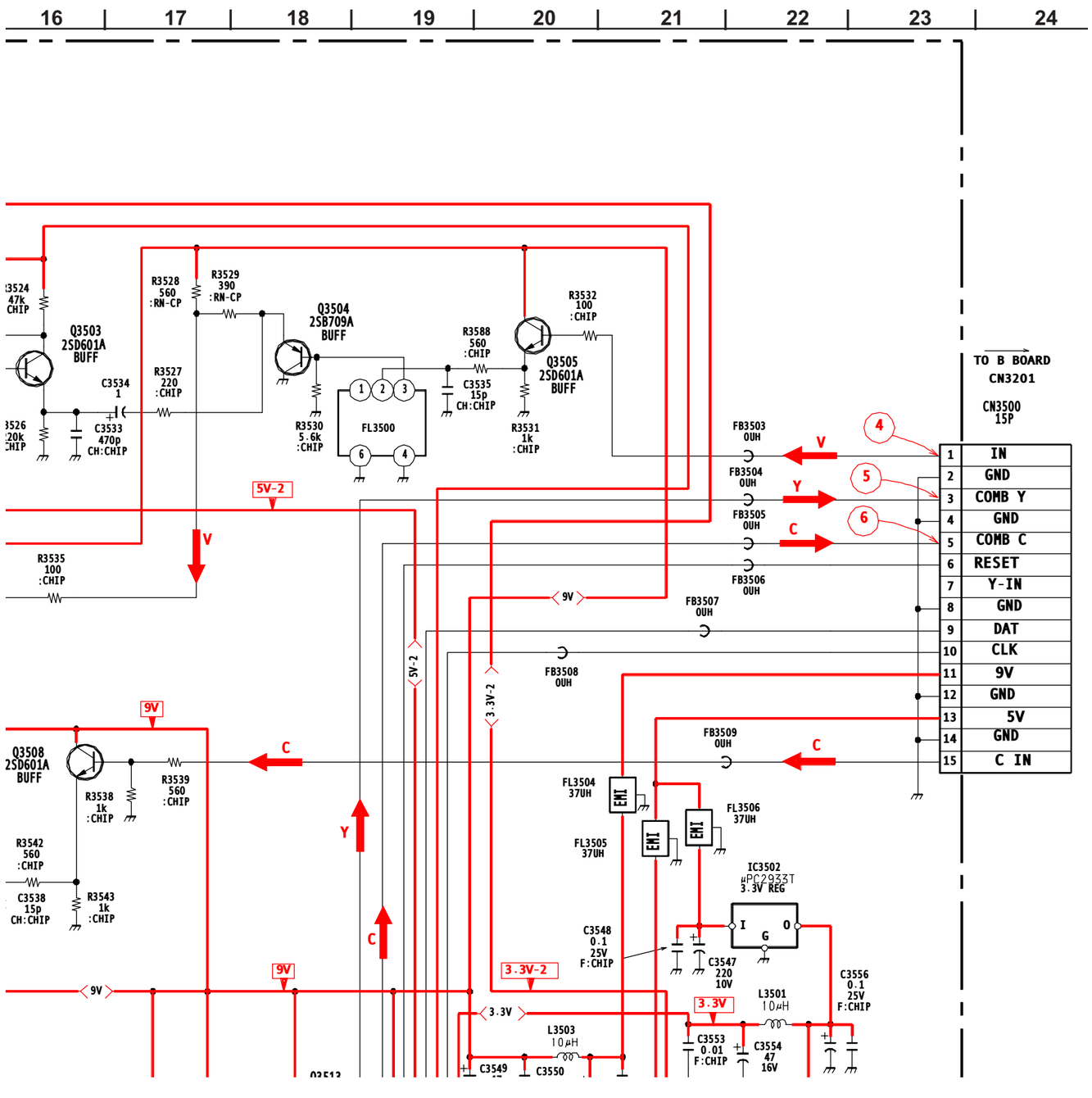
9-965-898-01<DX-1A> B(4/4)

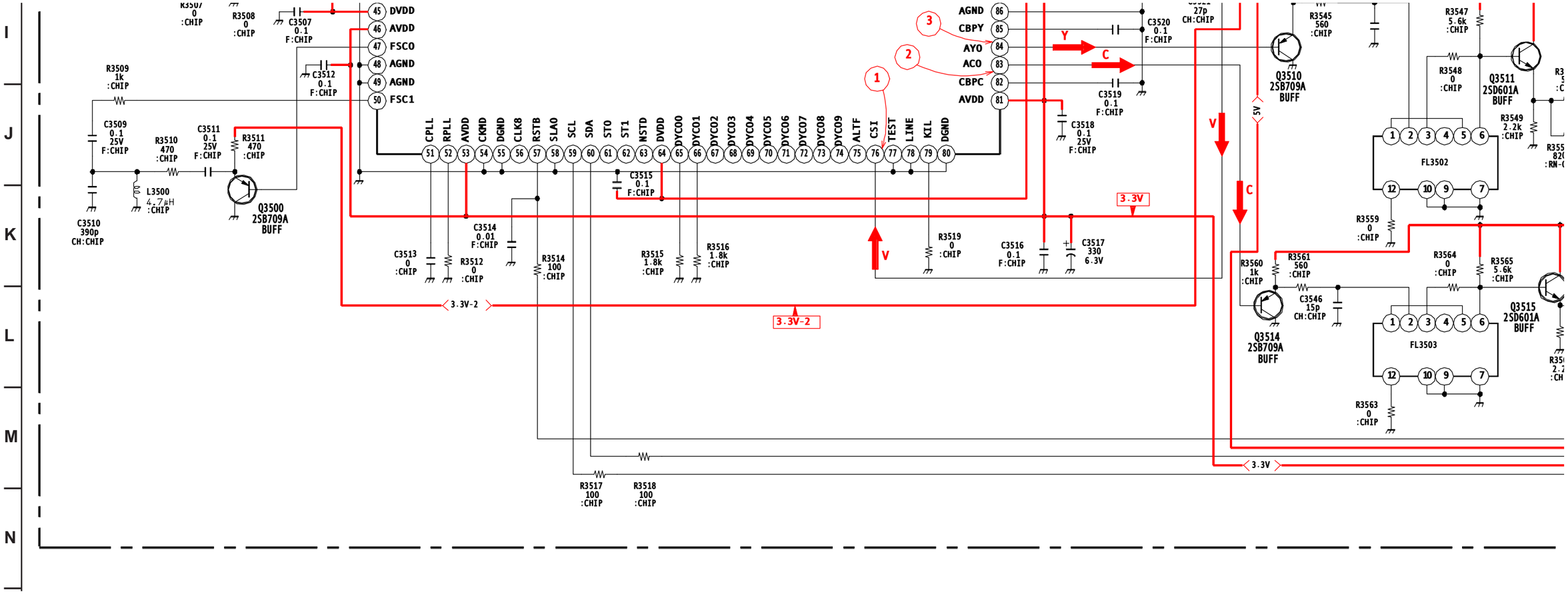
B BOARD: IC2309Q

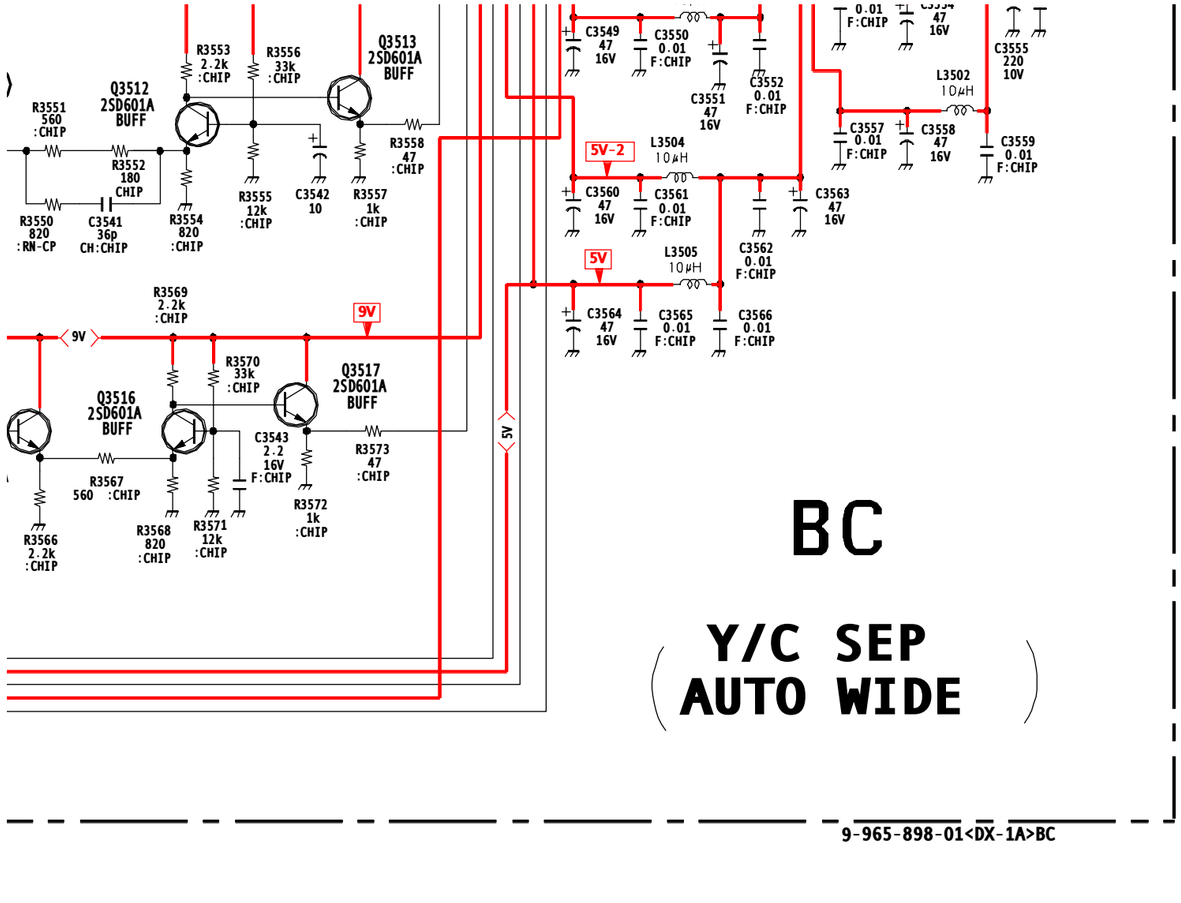


BC BOARD SCHEMATIC DIAGRAM




16
17
18
19
20
21
22
23
24
Q3503
2SD601A
BUFF
Q3504
2SB709A
BUFF
Q3505
2SD601A
BUFF
Q3508
2SD601A
BUFF
R3528
560
:RN-CP
R3529
390
:RN-CP
R3527
220
:CHIP
C3534
1
C3533
470p
CH:CHIP
R3530
5.6k
:CHIP
FL3500
R3588
560
:CHIP
C3535
15p
CH:CHIP
R3532
100
:CHIP
R3531
1k
:CHIP
R3535
100
:CHIP
R3538
1k
:CHIP
R3539
560
:CHIP
R3542
560
:CHIP
C3538
15p
CH:CHIP
R3543
1k
:CHIP
FB3503
0UH
FB3504
0UH
FB3505
0UH
FB3506
0UH
FB3507
0UH
FB3508
0UH
FB3509
0UH
TO B BOARD
CN3201
CN3500
15P
1 IN
2 GND
3 COMB Y
4 GND
5 COMB C
6 RESET
7 Y-IN
8 GND
9 DAT
10 CLK
11 9V
12 GND
13 5V
14 GND
15 C IN
FL3504
37UH
FL3505
37UH
FL3506
37UH
EMI
IC3502
μPC2933T
3.3V REG
I
O
G
C3548
0.1
25V
F:CHIP
C3547
220
10V
C3556
0.1
25V
F:CHIP
L3501
10μH
C3553
0.01
F:CHIP
C3554
47
16V
L3503
10μH
C3549
C3550
5V-2
9V
3.3V-2
3.3V
V
Y
C

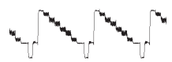
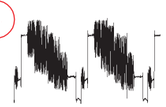
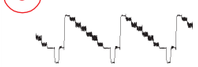

I
J
K
L
M
N
R3507 0 :CHIP
R3508 0 :CHIP
C3507 0.1 F:CHIP
C3512 0.1 F:CHIP
R3509 1k :CHIP
C3509 0.1 25V F:CHIP
R3510 470 :CHIP
C3511 0.1 25V F:CHIP
R3511 470 :CHIP
C3510 390p CH:CHIP
L3500 4.7μH :CHIP
Q3500 2SB709A BUFF
45 DVDD
46 AVDD
47 FSCO
48 AGND
49 AGND
50 FSC1
CPLL 51
RPLL 52
AVDD 53
CKMD 54
DGND 55
CLK8 56
RSTB 57
SLAO 58
SCL 59
SDA 60
ST0 61
ST1 62
NSTD 63
DVDD 64
DYCO0 65
DYCO1 66
DYCO2 67
DYCO3 68
DYCO4 69
DYCO5 70
DYCO6 71
DYCO7 72
DYCO8 73
DYCO9 74
ALTF 75
CSI 76
TEST 77
LINE 78
KIL 79
DGND 80
AGND 86
CBPY 85
AYO 84
ACO 83
CBPC 82
AVDD 81
C3513 0 :CHIP
R3512 0 :CHIP
C3514 0.01 F:CHIP
R3514 100 :CHIP
C3515 0.1 F:CHIP
R3515 1.8k :CHIP
R3516 1.8k :CHIP
R3517 100 :CHIP
R3518 100 :CHIP
R3519 0 :CHIP
C3516 0.1 F:CHIP
C3517 330 6.3V
C3518 0.1 25V F:CHIP
C3519 0.1 F:CHIP
C3520 0.1 F:CHIP
3.3V
3.3V-2
3.3V-2
1
2
3
Y
C
V
V
C
5V
3.3V
C3521 27p CH:CHIP
R3545 560 :CHIP
Q3510 2SB709A BUFF
R3547 5.6k :CHIP
R3548 0 :CHIP
Q3511 2SD601A BUFF
R3549 2.2k :CHIP
FL3502
R3559 0 :CHIP
R3560 1k :CHIP
R3561 560 :CHIP
C3546 15p CH:CHIP
Q3514 2SB709A BUFF
R3564 0 :CHIP
R3565 5.6k :CHIP
Q3515 2SD601A BUFF
FL3503
R3563 0 :CHIP



BC

Y/C SEP
AUTO WIDE

BC BOARD WAVEFORMS

1 5.0 Vp-p (H)	2 0.54 Vp-p (H)
3  1.0Vp-p (H)	4  2.8 Vp-p (H)
5  2.5 Vp-p (H)	6 0.98 Vp-p (H)

D BOARD SCHEMATIC DIAGRAM (1 OF 3)

D (1/3)

POWER SUPPLY
AC RECT

TO A BOARD
CN6013

CN6502
2P
WHT
:MINI(LOCK)

AC OUT	1
AC OUT	2

TO A BOARD
CN6005

CN6501
6P
WHT
:VH

AC RECT+	1
NC	2
AC RECT-	3
NC	4
PRI 15V	5
GND	6

TO A BOARD
CN702
CN6504
8P

AC RLY	1
MAIN RLY	2
E	3
E	4
E	5
NORMAL	6
E	7
WP	8

JR6501
0
:CHIP

C6584
0.047
125V

C6585
0.001
250V
B

C6591
0.001
250V
B

RY6501

R6516
3.3
10W
:RB

RY6502

D6531
MA111
PROTECT

D6533
MA111
PROTECT

R6519
0
:CHIP

C6586
0.0047
125V
F

D6530
D6S60L
AC-RECT

C6587
0.0047
125V
F

C6588
0.0047
125V
F

C6589
0.0047
125V
F

JW6503

JW6504

C6590
1200
250V

C6503
1200
250V

R6515
470k
1/2W

R6502
470k
1/2W

D6509
ERC04-06SE

D6510
ERC04-06SE

D6532
ERA22-08
STOPPER

R6521
1k
1/2W
:FPRD

R6507
4.7k
:CHIP

PH6501
ON3171-R
RESISTOR SHORT

R6510
22
1W
:RS

AC RECT+

PRI 15V

SUB 7V

P-SW(-)

MAIN RLY

TO P2
MAIN RLY

W.P

IC6501
MCZ3001D
DRIVER

R6646
330k
:RN

R6514
330k
:RN

R6513
330k
:RN

Q6503
2SD601A

R6517
8.2k
:RN-CP

C6511
0.01
B:CHIP

R6504
10k
:CHIP

C6504
0.01
B:CHIP

R6541
15k
:CHIP

C6518
0.001
:PP

R6518
15k
:RN-CP

R6526
0.1
1/2W
:RF

R6552
22k
:CHIP

R6543
330k
:RN-CP

R6553
330k
:CHIP

C6519
10

C6517
4.7
F

C6507
47

C6516
0.001
B:CHIP

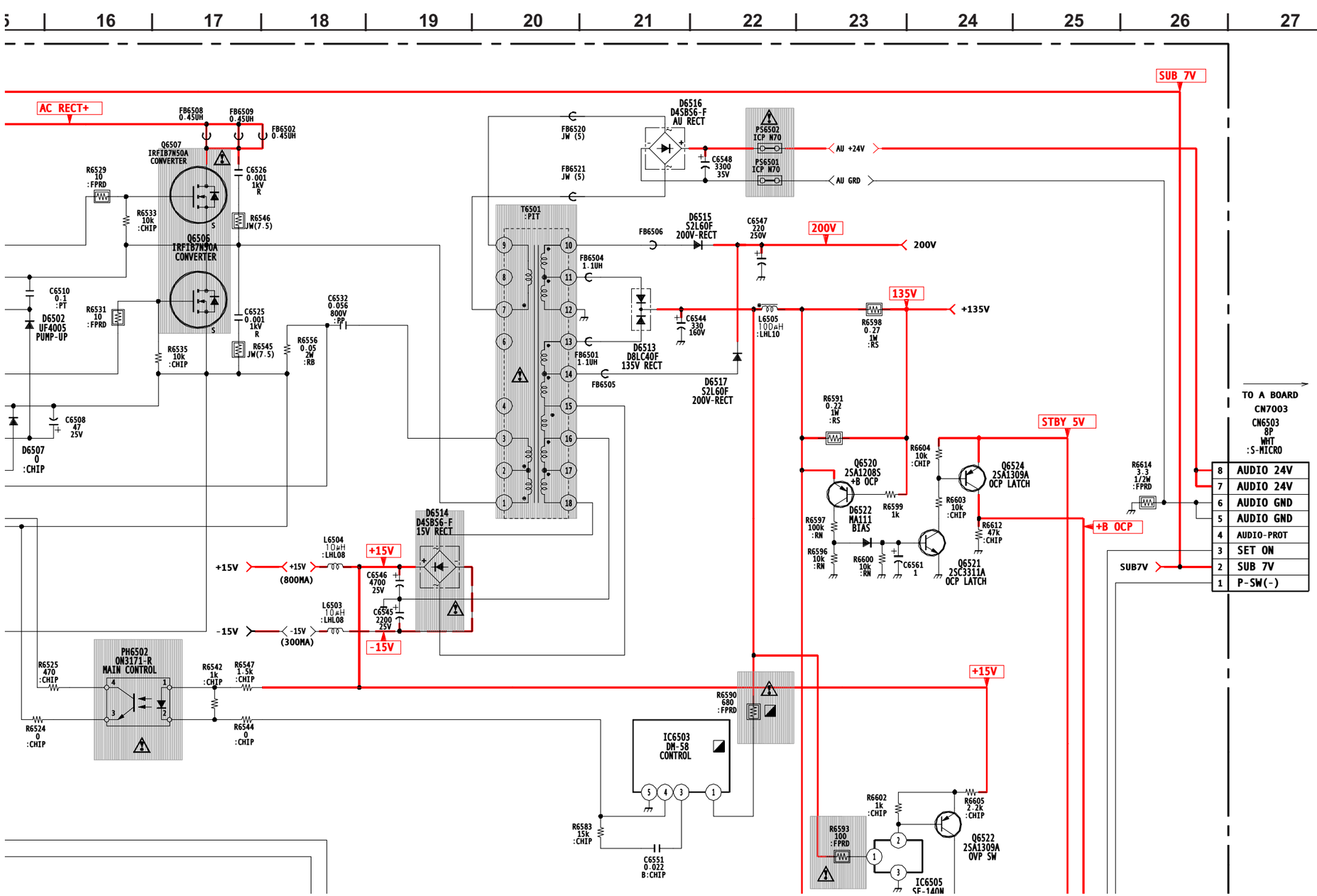
R6503
100
:RN-CP

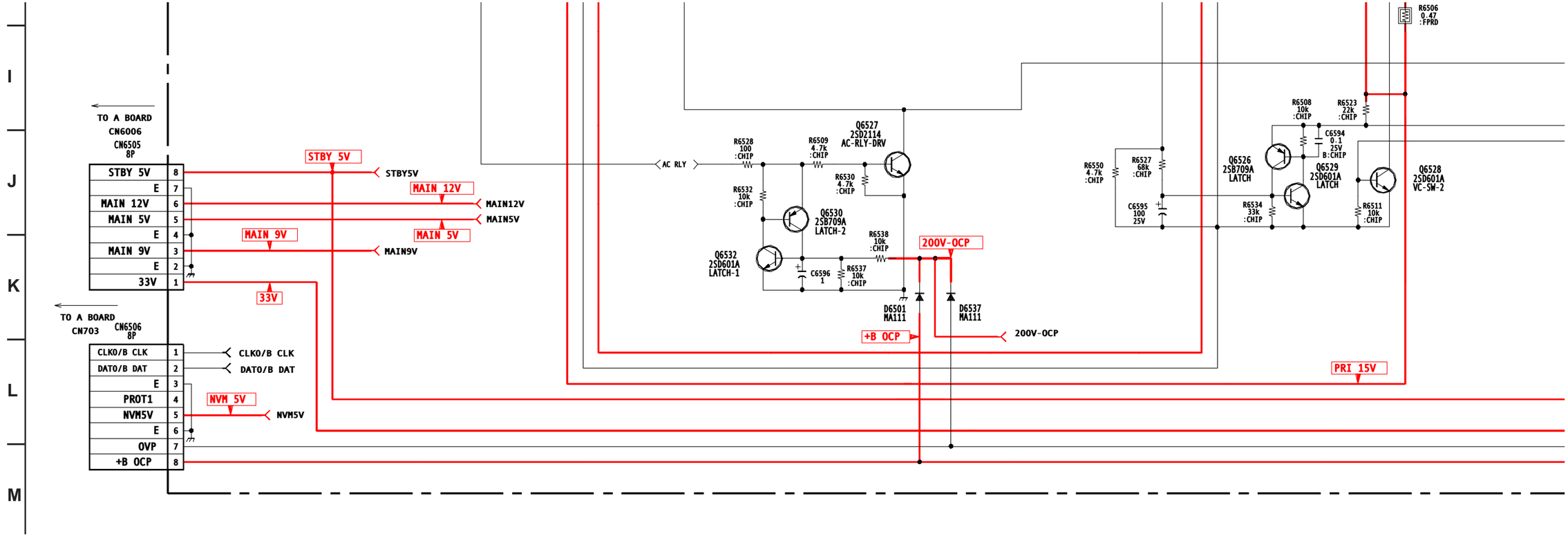
R6501
91
:RN-CP

VSENSE
F/B.
CT
RT
GND
TIMER
SS
VC1
OCP
VD
VG(H)
VS
VB
VG(L)
P-GND
VC2

R6557
100k
:CHIP

R6506
0.47
:FPRD


15 16 17 18 19 20 21 22 23 24 25 26 27
AC RECT+
SUB 7V
FB6508 0.45UH
FB6509 0.45UH
FB6502 0.45UH
Q6507 IRFIB7N50A CONVERTER
Q6506 IRFIB7N50A CONVERTER
R6529 10 :FPRD
R6533 10k :CHIP
R6546 JW(7.5)
C6526 0.001 1kV R
C6510 0.1 :PT
D6502 UF4005 PUMP-UP
R6531 10 :FPRD
R6535 10k :CHIP
R6545 JW(7.5)
C6525 0.001 1kV R
C6532 0.056 800V :PP
R6556 0.05 2W :RB
C6508 47 25V
D6507 0 :CHIP
T6501 :PIT
FB6520 JW (5)
FB6521 JW (5)
D6516 D45BS6-F AU RECT
C6548 3300 35V
PS6502 ICP N70
PS6501 ICP N70
AU +24V
AU GRD
FB6506
D6515 S2L60F 200V-RECT
C6547 220 250V
200V
200V
FB6504 1.1UH
C6544 330 160V
L6505 100uH :LHL10
135V
+135V
R6598 0.27 1W :RS
D6513 D8LC40F 135V RECT
FB6501 1.1UH
FB6505
D6517 S2L60F 200V-RECT
R6591 0.22 1W :RS
STBY 5V
R6604 10k :CHIP
Q6520 2SA1208S +B OCP
Q6524 2SA1309A OCP LATCH
R6603 10k :CHIP
R6599 1k
D6522 MA111 BIAS
R6597 100k :RN
R6596 10k :RN
R6600 10k :RN
C6561 1
Q6521 2SC3311A OCP LATCH
R6612 47k :CHIP
+B OCP
R6614 3.3 1/2W :FPRD
SUB7V
TO A BOARD
CN7003
CN6503
8P
WHT
:S-MICRO
8 AUDIO 24V
7 AUDIO 24V
6 AUDIO GND
5 AUDIO GND
4 AUDIO-PROT
3 SET ON
2 SUB 7V
1 P-SW(-)
D6514 D4SBS6-F 15V RECT
L6504 10uH :LHL08
+15V
+15V (800MA)
C6546 4700 25V
L6503 10uH :LHL08
-15V (300MA)
C6545 2200 25V
-15V
PH6502 ON3171-R MAIN CONTROL
R6525 470 :CHIP
R6542 1k :CHIP
R6547 1.5k :CHIP
R6524 0 :CHIP
R6544 0 :CHIP
+15V
R6590 680 :FPRD
IC6503 DM-58 CONTROL
R6583 15k :CHIP
C6551 0.022 B:CHIP
R6602 1k :CHIP
R6605 2.2k :CHIP
R6593 100 :FPRD
Q6522 2SA1309A OVP SW
IC6505 SF-140W


I
J
K
L
M
TO A BOARD
CN6006
CN6505
8P
STBY 5V 8
E 7
MAIN 12V 6
MAIN 5V 5
E 4
MAIN 9V 3
E 2
33V 1
STBY 5V
STBY5V
MAIN 12V
MAIN12V
MAIN 5V
MAIN5V
MAIN 9V
MAIN9V
33V
TO A BOARD
CN703
CN6506
8P
CLK0/B CLK 1
DAT0/B DAT 2
E 3
PROT1 4
NVM5V 5
E 6
OVP 7
+B OCP 8
CLK0/B CLK
DAT0/B DAT
NVM 5V
NVM5V
AC RLY
R6528 100 :CHIP
R6509 4.7k :CHIP
Q6527 2SD2114 AC-RLY-DRV
R6530 4.7k :CHIP
R6532 10k :CHIP
Q6530 2SB709A LATCH-2
Q6532 2SD601A LATCH-1
R6538 10k :CHIP
C6596 1
R6537 10k :CHIP
200V-OCP
D6501 MA111
D6537 MA111
+B OCP
200V-OCP
R6506 0.47 :FPRD
R6508 10k :CHIP
R6523 22k :CHIP
C6594 0.1 25V B:CHIP
R6550 4.7k :CHIP
R6527 68k :CHIP
C6595 100 25V
Q6526 2SB709A LATCH
Q6529 2SD601A LATCH
R6534 33k :CHIP
R6511 10k :CHIP
Q6528 2SD601A VC-SW-2
PRI 15V

B:CHIP

IC6505
SE-140N
+B OVP

R6539
22k
2W
:RS

D6508
MTZJ-33C

33V

R6540
1k
:CHIP

STBY 5V

R6522
10k
:CHIP

PH6503
ON3171-R
MAIN SW

Q6531
2SD601A
MAIN-SW

R6536
10k
:CHIP

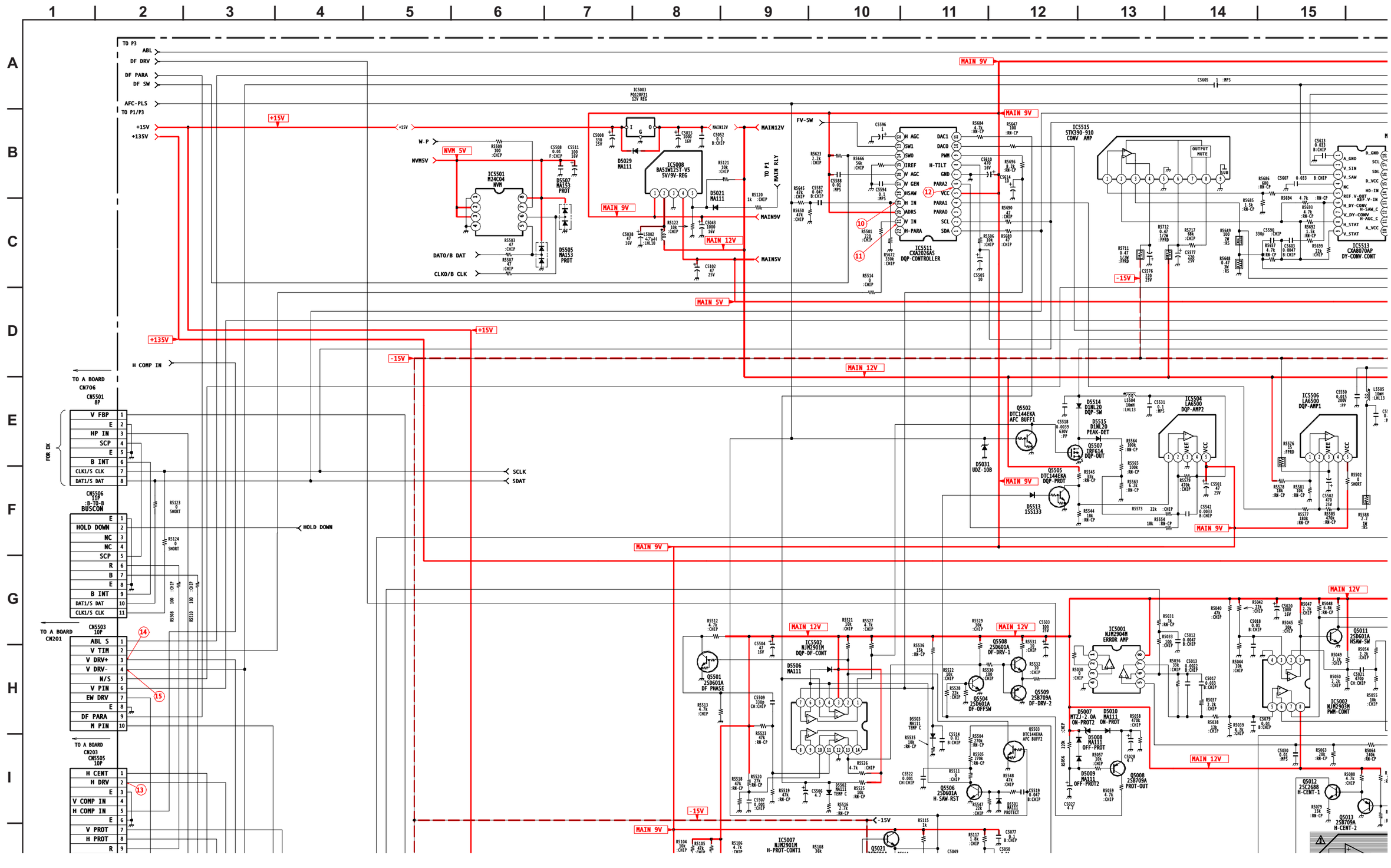
R6512
10k
:CHIP

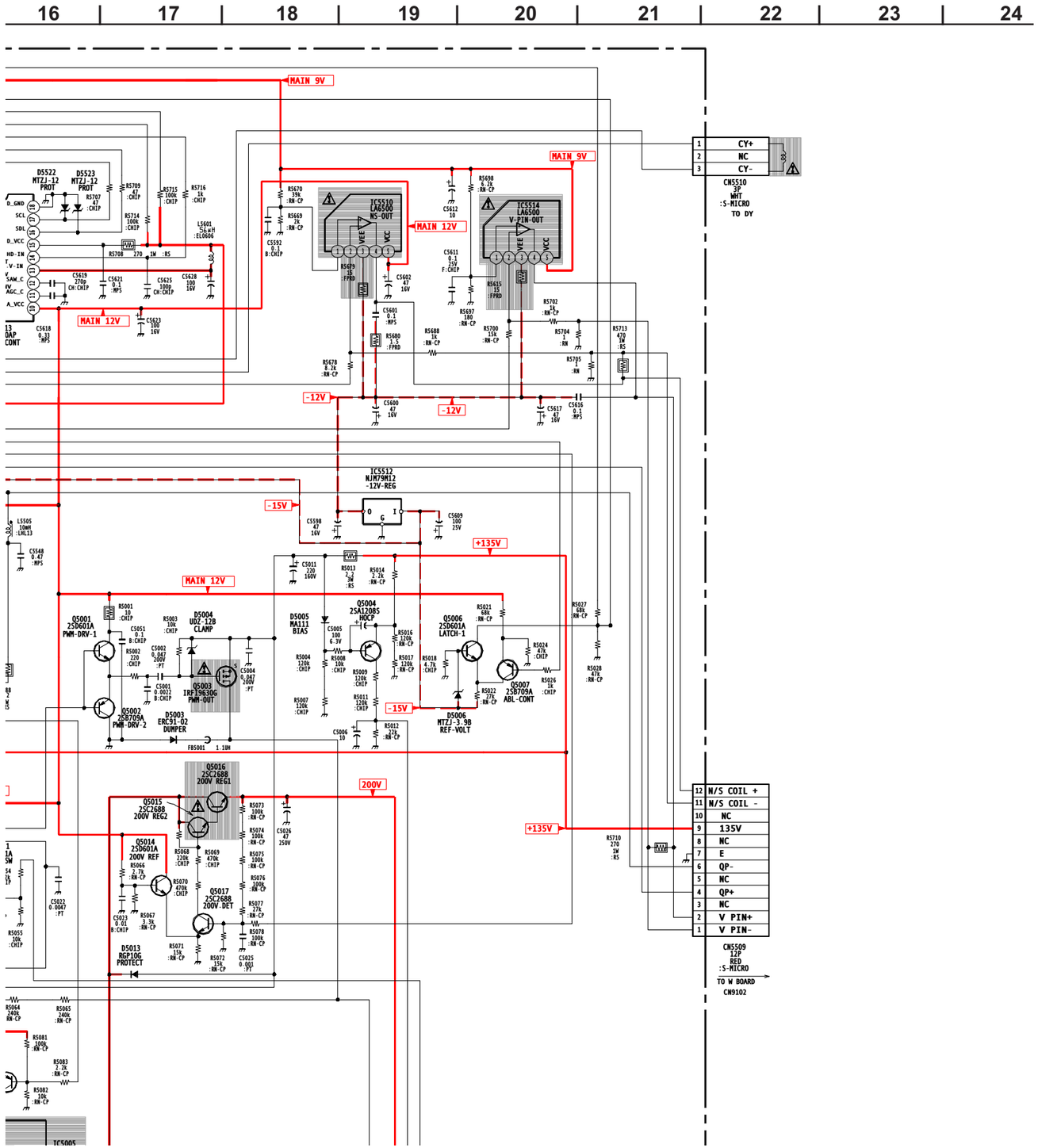
33V

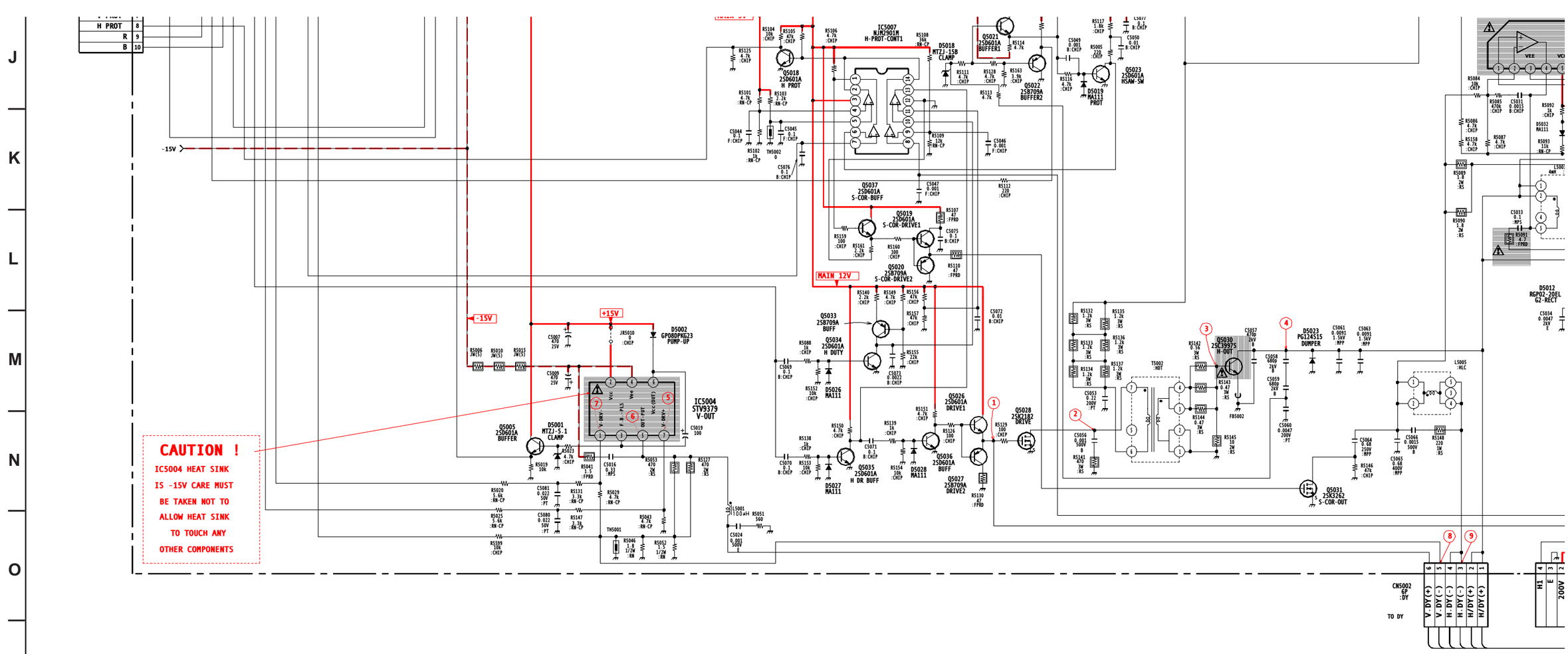
+B OCP

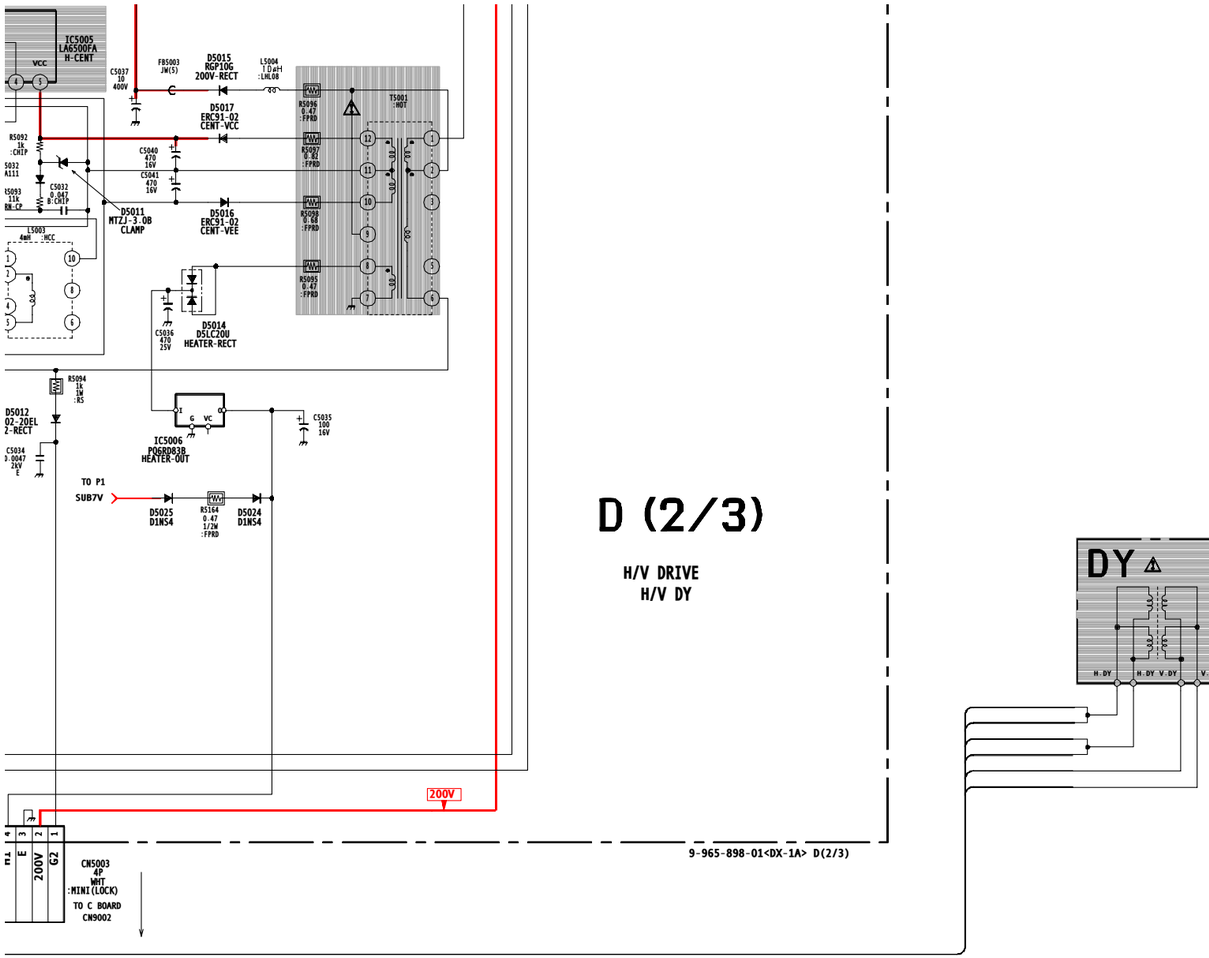
9-965-898-01<DX-1A> D(1/3)

D BOARD SCHEMATIC DIAGRAM (2 OF 3)



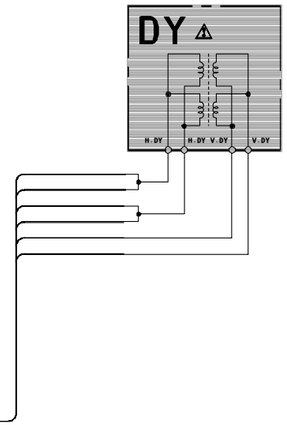

16
17
18
19
20
21
22
23
24
MAIN 9V
MAIN 12V
-12V
-15V
+135V
200V
IC5510 LA6500 NS-OUT
IC5514 LA6500 V-PIN-OUT
IC5512 NJM79M12 -12V-REG
Q5001 2SB601A PWM-DRV-1
Q5002 2SB709A PWM-DRV-2
Q5003 IRF1963OS PWM-OUT
Q5004 2SA1208S HOCP
Q5006 2SB601A LATCH-1
Q5007 2SB709A ABL-CONT
Q5014 2SB601A 200V REF
Q5015 2SC2688 200V REG2
Q5016 2SC2688 200V REG1
Q5017 2SC2688 200V-DET
D5004 UDZ-12B CLAMP
D5005 MA111 BIAS
D5006 MTZJ-3.9B REF-VOLT
D5013 RGP10G PROTECT
CN5510 3P WHT :S-MICRO TO DY
CN5509 12P RED :S-MICRO TO W BOARD CN9102
1 CY+
2 NC
3 CY-
12 N/S COIL +
11 N/S COIL -
10 NC
9 135V
8 NC
7 E
6 QP-
5 NC
4 QP+
3 NC
2 V PIN+
1 V PIN-


H PROT 8
R 9
B 10
-15V
+15V
MAIN 12V
IC5007 NJM2901M H-PROT-CONT1
Q5018 2SD601A H PROT
Q5021 2SD601A BUFFER1
Q5022 2SB709A BUFFER2
Q5023 2SD601A HSW-SW
D5019 HA111 PROT
D5018 MTZJ-15B CLAMP
Q5037 2SD601A S-COR-BUFF
Q5019 2SD601A S-COR-DRIVE1
Q5020 2SB709A S-COR-DRIVE2
Q5033 2SB709A BUFF
Q5034 2SD601A H DUTY
Q5035 2SD601A H DR BUFF
Q5026 2SD601A DRIVE1
Q5027 2SB709A DRIVE2
Q5028 2SC2182 DRIVE
Q5030 2SC3997S H-OUT
Q5031 2SK3262 S-COR-OUT
D5023 PG124S15 DUMPER
D5012 RGP02-20EL G2-RECT
D5002 GP08DPKG23 PUMP-UP
IC5004 STV9379 V-OUT
Q5005 2SD601A BUFFER
D5001 MTZJ-5.1 CLAMP
D5026 HA111
D5027 HA111
D5028 HA111
TH5001
TH5002
FB5002
L5001 1100uH
L5005 :HLC
CN5002 6P :DY
TO DY
V-DY(+)
V-DY(-)
H-DY(-)
H-DY(-)
H/DY(+)
H/DY(+)
VEE
VCC
CAUTION !
IC5004 HEAT SINK
IS -15V CARE MUST
BE TAKEN NOT TO
ALLOW HEAT SINK
TO TOUCH ANY
OTHER COMPONENTS

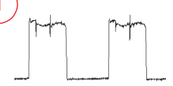
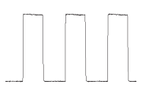
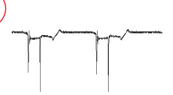
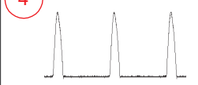
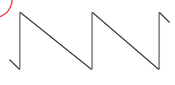
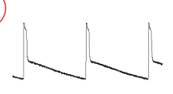
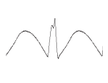
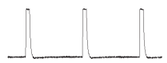
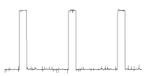
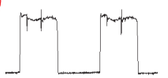


D (2/3)

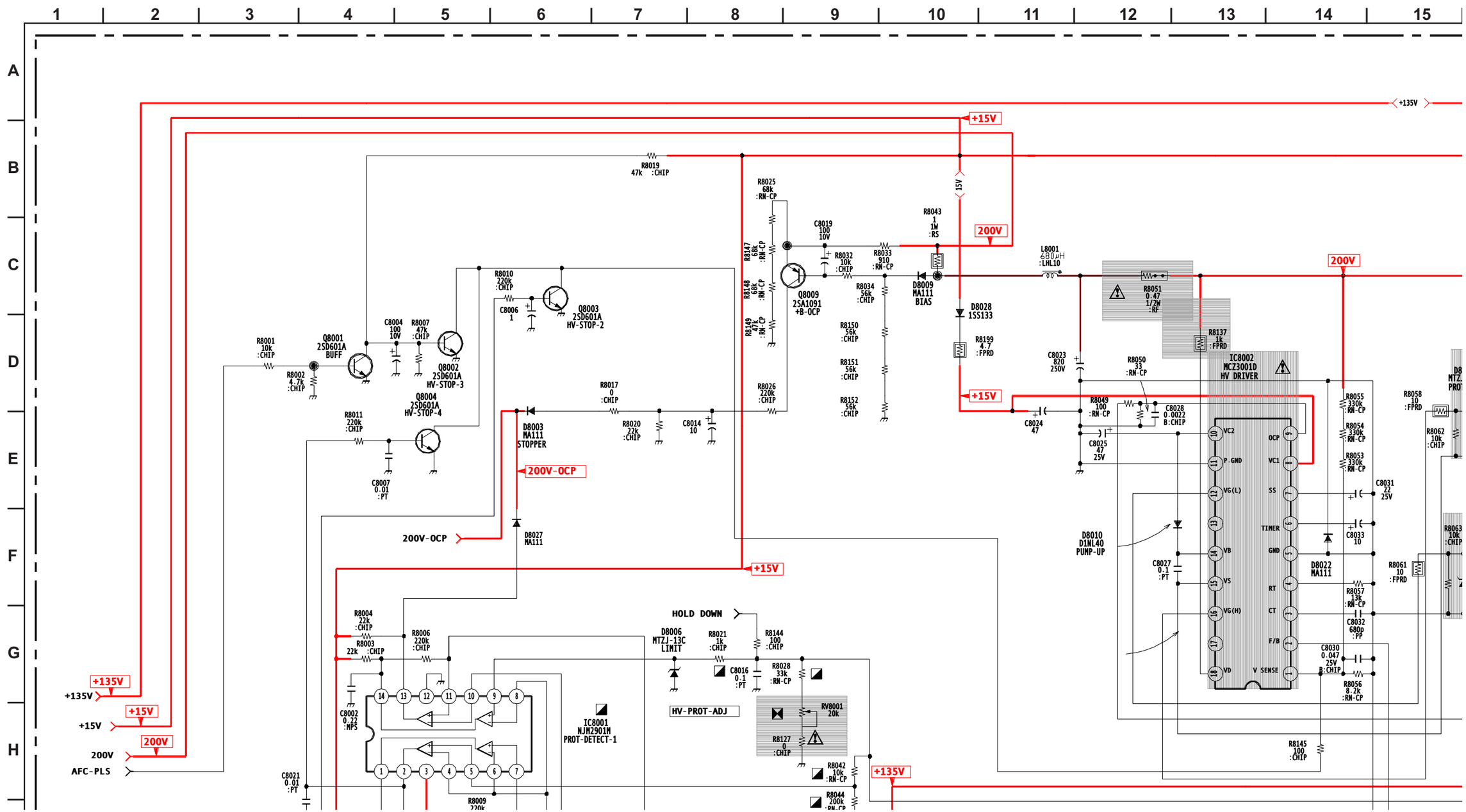
H/V DRIVE
H/V DY



D BOARD WAVEFORMS

1  12 Vp-p (H)	2  152.4 Vp-p (H)	3  12.8Vp-p (H)
4  1.0 KVp-p (H)	5  8.0 Vp-p (V)	6  60.2 Vp-p (V)
7 7.3 Vp-p (V)	8 1.9 Vp-p (V)	9  94.6 Vp-p (H)
10  1.3 Vp-p (H)	11  5.1 Vp-p (V)	12 2.0 Vp-p (H)
13  2.9 Vp-p (H)	14 1.7 Vp-p (V).	15 1.5 Vp-p (V)

D BOARD SCHEMATIC DIAGRAM (3 OF 3)



16 17 18 19 20 21 22 23 24 25 26 27 28

D (3/3)

DEFLECTION

+135V
+15V
+135V
+15V
+15V
+135V

Q8014 IRFI644G CONVERTER
D8050 MTZJ-15 PROTECT
FB8001 0.45UH
C8036 680p 1kV :R
R8067 JW(7.5)
Q8013 IRFI644G CONVERTER
R8063 10k :CHIP
D8051 MTZJ-15 PROTECT
C8035 680p 1kV :R
R8064 JW(7.5)
C8037 47000p 800V :MPP
R8070 0.1 2W :RB

L8002 107μH

T8001 NX-6000 :RHT

R8081 0.47 :FPRD
D8014 RGP10G
D8021

SG8002
C8063 0.01 630V :MPS
R8086 47k 1/2W
R8085 10k 1/2W
R8087 0 :CHIP
C8045 1000p
R8096 0 :CHIP
R8146 1k :CHIP
D8026 MA111
C8048 0.1 :PF
R8091 470k :RN
R8095 470k :RN

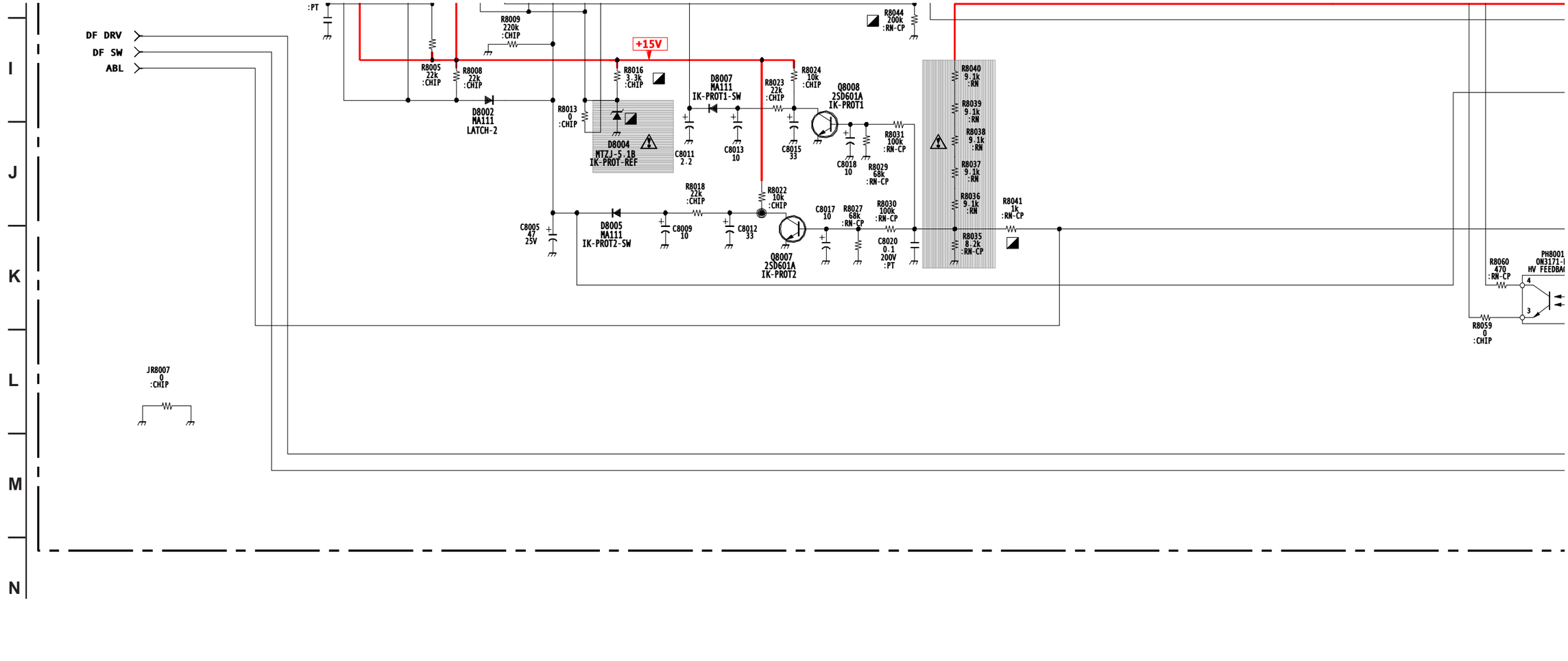
DF SW
R8113 680k :CHIP
Q8020 2SD601A INVERT
R8117 100k :CHIP
R8118 33k :CHIP
C8059 47 10V
C8051 10
R8108 100k :CHIP
C8056 0.01 B:CHIP
R8102 22k :CHIP
R8104 47k :CHIP
R8112 100k :CHIP
Q8019 DTC144EKA DF PROT

Q8015 2SC2688 DF ON/OFF SW1
R8101 150k :CHIP
R8093 150k :CHIP
R8103 6.8k :CHIP
R8089 47k :CHIP
Q8016 2SA1776 DF ON/OFF SW2
R8109 6.8k 3W
R8111 6.8k 3W
R8114 6.8k 3W
R8116 8.2k 3W
R8119 8.2k 3W
C8060 4.7 160V

T8002 :DFT
D8018 D1NL40U

JR8003 0 :CHIP
JR8005 0 :CHIP
C8046 220p 2kV B
C8054 220p 500V B
C8055 0.0018 630V :PP
L8005 3.3mH

R8124 10k :CHIP
Q8023 2SD601A DF-DRV-1
R8125 10 :CHIP
R8126


DF DRV
DF SW
ABL
:PT
R8009
220k
:CHIP
R8005
22k
:CHIP
R8008
22k
:CHIP
D8002
MA111
LATCH-2
+15V
R8016
3.3k
:CHIP
R8013
0
:CHIP
D8004
MTZJ-5.1B
IK-PROT-REF
C8011
2.2
D8007
MA111
IK-PROT1-SW
C8013
10
R8023
22k
:CHIP
R8024
10k
:CHIP
C8015
33
Q8008
2SD601A
IK-PROT1
R8044
200k
:RN-CP
R8040
9.1k
:RN
R8039
9.1k
:RN
R8038
9.1k
:RN
R8037
9.1k
:RN
R8036
9.1k
:RN
R8035
8.2k
:RN-CP
R8031
100k
:RN-CP
C8018
10
R8029
68k
:RN-CP
R8041
1k
:RN-CP
R8018
22k
:CHIP
R8022
10k
:CHIP
C8005
47
25V
D8005
MA111
IK-PROT2-SW
C8009
10
C8012
33
C8017
10
R8027
68k
:RN-CP
R8030
100k
:RN-CP
C8020
0.1
200V
:PT
Q8007
2SD601A
IK-PROT2
JR8007
0
:CHIP
R8060
470
:RN-CP
R8059
0
:CHIP
PH8001
ON3171-
HV FEEDBA
4
3

R8077 220k :RN-CP
R8078 220k :RN-CP
C8041 0.47 :MPS
R8080 15K
D8021 MA111
D8025 MTZJ-33B
R8047 100k :CHIP
D8020 MA111
R8065 47k :CHIP
Q8010 2SD601A VD PROT
C8022 100 16V
15V
+15V
JR8002 0 :CHIP
JR8001 0 :CHIP
SG8005
D8013 D1NL20U STOPPER
C8042 0.1 200V :PP
R8082 3.3M :CHIP
D8019 MTZJ-15B
PH8001 NN3171-R FEEDBACK
R8066 1k :CHIP
R8069 1.5k
R8068 0 :CHIP
R8071 10k :CHIP
RV8002 2k
C8039 0.01 B:CHIP
R8074 3k :RN-CP
R8072 1k :RN-CP
R8073 2.2k :RN-CP
C8040 220
IC8004 NJM2904M BUFF
CATHODE
ANODE
REF.
IC8003 μPC1093J-1 CONTROL
JR8004 0 :CHIP
JR8006 0 :CHIP
C8047 100p 2kV B
L8005 3.3mH :LHL10
D8016 ERA22 SNUBBER
C8053 100p 500V B
0.0018 630V :PP
R8100 100k
R8099 100k
R8098 100k
C8050 0.022 630V :PP
D8017 ERA22 DF-DAMP
C8058 0.47 :MPS
R8115 1k :CHIP
Q8018 2SC3840K DF OUT
DF-DRV-1
R8123 100 :CHIP
R8126 10 :CHIP
Q8022 2SB709A DF-DRV-2
DF DRV

9-965-898-01<DX-1A> D(3/3)

PRINTING THE SERVICE MANUAL

The PDF of this service manual is not designed to be printed from cover to cover. The pages vary in size, and must therefore be printed in sections based on page dimensions.

NON-SCHEMATIC PAGES

Data that does NOT INCLUDE schematic diagrams are formatted to 8.5 x 11 inches and can be printed on standard letter-size and/or A4-sized paper.

SCHEMATIC DIAGRAMS

The schematic diagram pages are provided in two ways, full size and tiled. The full-sized schematic diagrams are formatted on paper sizes between 8.5" x 11" and 18" x 30" depending upon each individual diagram size. Those diagrams that are LARGER than 11" x 17" in full-size mode have been tiled for your convience and can be printed on standard 11" x 17" (tabloid-size) paper, and reassembled.

TO PRINT FULL SIZE SCHEMATIC DIAGRAMS

If you have access to a large paper plotter or printer capable of outputting the full-sized diagrams, output as follows:

1) Note the page size(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.

2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your large format printer. Confirm that the printer settings are set to output the indicated page size or larger.

3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT TILED VERSION OF SCHEMATICS

Schematic pages that are larger than 11" x 17" full-size are provided in a 11" x 17" printable tiled format near the end of the document. These can be printed to tabloid-sized paper and assembled to full-size for easy viewing.

If you have access to a printer capable of outputting the tabloid size (11" x 17") paper, then output the tiled version of the diagram as follows:

1) Note the page number(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.

2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your printer. Confirm that the plotter settings are set to output 11" x 17", or tabloid size paper in landscape ( ) mode.

3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT SPECIFIC SECTIONS OF A SCHEMATIC

To print just a particular section of a PDF, rather than a full page, access the Graphics Select tool in the Acrobat Reader tool bar.

1) To view the Graphics Select Tool, press the mouse button over the Text Select Tool which looks like:
This tool will expand to reveal to additional tools.
Choose the Graphics Select tool by placing the cursor over the button on of the far right that looks like:

2) After selecting the Graphics Select Tool, place your cursor in the document window and the cursor will change to a plus (+) symbol. Click and drag the cursor over the area you want to print. When you release the mouse button, a marquee (or dotted lined box) will be displayed outlining the area you selected.

3) With the marquee in place, go to the file menu and select the "Print..." option. When the print window appears, choose the option under the section called "Print Range" which says "Selected Graphic".

Select OK and the output will print only the area that you outlined with the marquee.

(continued >)

ON-SCREEN SEARCH OPTION

All of the text within the service manual PDF is content searchable. This means that you can enter any text, word, phrase or reference number that appears in the manual, and the PDF software will search, find and move the cursor to the location where you requested text first appears. This feature can be particularly useful in locating components on a specific schematic or printed wire circuit board (PWB) diagrams.

Follow these steps to effectively locate a component on a schematic diagram:

1) Locate the schematic you want to search by clicking on the corresponding bookmark on the left side of the screen. The view on the right of the screen will then jump to the desired schematic page.

2) Magnify the diagram to at least 400% before conducting a component search. This will enable you to easily view the reference number when it is highlighted on screen. To do this, click on the magnifying glass button on the tool bar at the top of the screen. Move the cursor over the diagram and RIGHT click you mouse. Select the 400% magnification option on the pop-up menu. Click on the button with the icon of the open hand to deactivate the magnification tool

3) Search the diagram (or the entire manual) by clicking on the binocular button tool at the top of the screen. The “Find” window will appear and allow you to type in your desired text. Type in a reference designator, such as R502, and click on the “Find” button. If the component is not on the diagram, but is listed anywhere else in the manual, the cursor will jump to the first location the text is found in the file. To find another instance of that same text, click on the binocular button again and select “Find Again.”

SONY

4-082-506-21

FD Trinitron WEGA™

XBR

DRC Digital Reality Creation

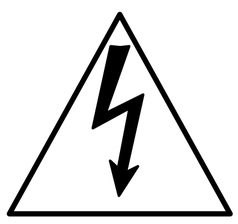
Operating Instructions

KV-32XBR450 KV-36XBR450

© 2001 by Sony Corporation

WARNING

To reduce the risk of fire or shock hazard, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

CAUTION

When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. Continuously watching the same program can cause the imprint of station logos onto the TV screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

Note on Cleaning the TV

Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.

Note to CATV System Installer

This reminder is provided to call the CATV system installer’s attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Use of this television receiver for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster / cable company and / or program owner.

NOTIFICATION

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❑ Reorient or relocate the receiving antennas.
- ❑ Increase the separation between the equipment and receiver.
- ❑ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ❑ Consult the dealer or an experienced radio / TV technician for help.

  You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Safety

- ❑ Operate the TV only on 120 V AC.
- ❑ The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- ❑ If any liquid or solid object should fall inside the cabinet, unplug the TV immediately and have it checked by qualified service personnel before operating it further.

Installing

- ❑ To prevent internal heat buildup, do not block the ventilation openings.
- ❑ Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- ❑ The AC power cord is attached to the rear of the TV with hooks. Do not attempt to remove the cord from these hooks. Doing so could cause damage to the TV.

As an ENERGY STAR® Partner, Sony has determined that this product or product models meets the ENERGY STAR® guidelines for energy efficiency.

ENERGY STAR® is a U.S. registered mark.

XBR

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FD Trinitron and the Wega logo are trademarks of Sony Corporation.

Owner’s Record

The model and serial numbers are provided on the front of this instruction manual and at the rear of the TV. Refer to them whenever you call upon your Sony dealer regarding this product.

Important Safeguards

For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set or described in the operating instructions or service manual.

WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use and servicing of the set.

Use

Power Sources

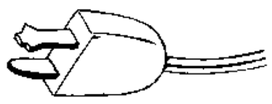
This set should be operated only from the type of power source indicated on the serial / model plate. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.

Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding).Follow the instructions below:

For the set with a polarized AC power cord plug

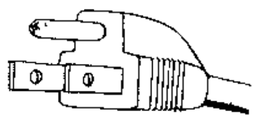
This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.



Alternate Warning

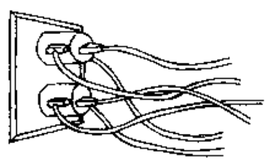
For the set with a three-wire grounding type AC plug

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.

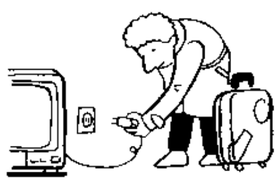


Overloading

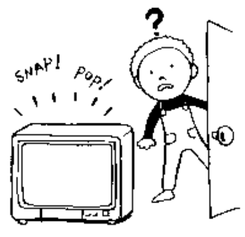
Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.



Always turn the set off when it is not being used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.

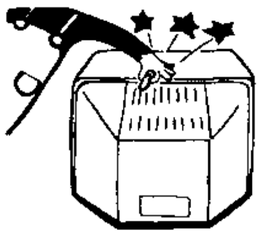


If a snapping or popping sound from a TV set is continuous or frequent while the TV is operating, unplug the TV and consult your dealer or service technician. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.



Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



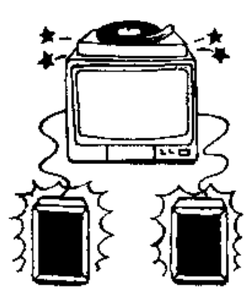
Cleaning

Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.

Installation

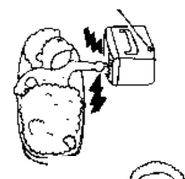
Attachments

Do not use attachments not recommended by the manufacturer, as they may cause hazards.



Water and Moisture

Do not use power-line operated sets near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.



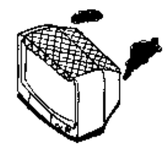
Accessories

Do not place the set on an unstable cart, stand, table or shelf. The set may fall, causing serious injury to a child or an adult and serious damage to the set. Use only a cart or stand recommended by Sony for the specific model of TV. No part of the TV set should overhang any edge of the TV cart or stand; any overhanging edge is a safety hazard. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

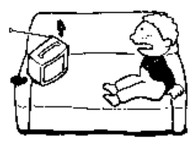
Ventilation

The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.

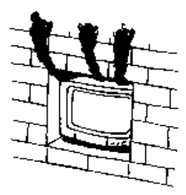
- ❑ Never cover the slots and openings with a cloth or other materials.



- ❑ Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.



- ❑ Never place the set in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.



- ❑ Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.

Power-Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.

Antennas

Outdoor Antenna Grounding

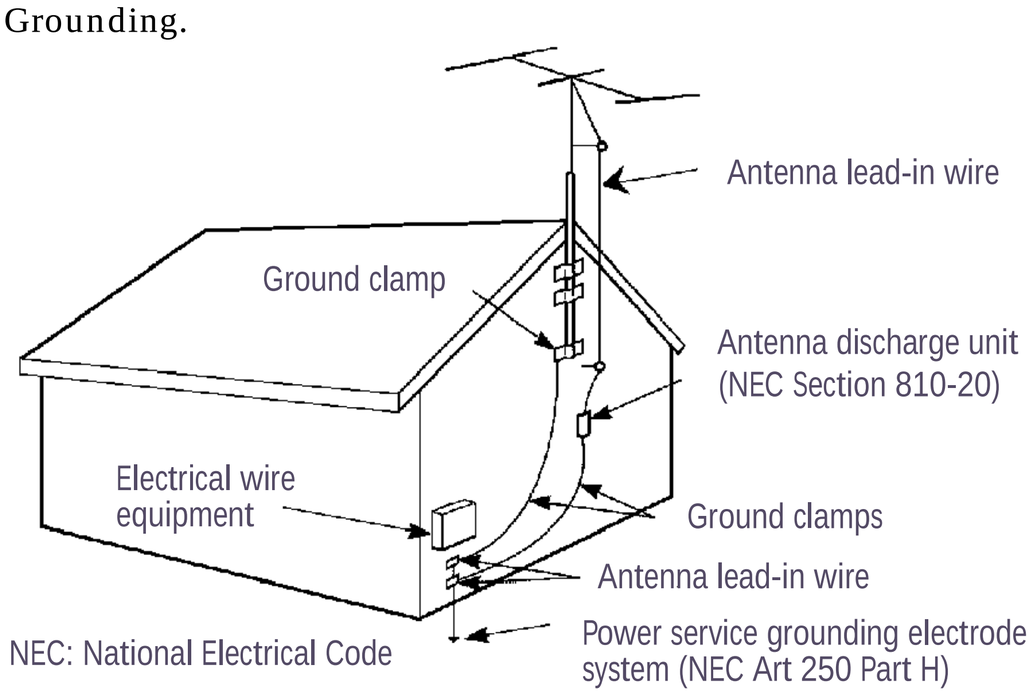
If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna Grounding According to the NEC

Refer to section 54-300 of Canadian Electrical Code for Antenna Grounding.



Lightning

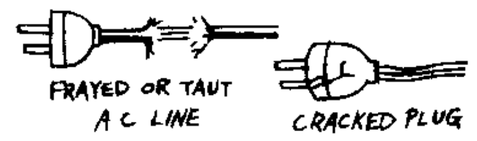
For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

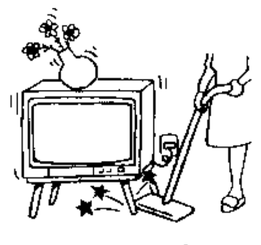
Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- ❑ When the power cord or plug is damaged or frayed.

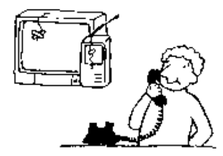


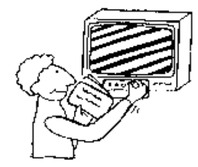
- ❑ If liquid has been spilled into the set.
- ❑ If the set has been exposed to rain or water.



- ❑ If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.

- ❑ If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.





- ❑ When the set exhibits a distinct change in performance, it indicates a need for service.

Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Replacement Parts

When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.

Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify. When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.

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Introducing the FD Trinitron Wega

Overview

This chapter defines the contents of your Wega TV and provides an overview of how to set up and use basic features.

Topic	Page
Presenting the FD Trinitron Wega	2
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Using the Remote Control	3

Presenting the FD Trinitron Wega

The FD Trinitron Wega (pronounced VAY-GAH) is characterized by outstanding contrast, uncompromising accuracy, and corner-to-corner detail.

You'll recognize the superiority of Wega technology almost immediately. The first thing you'll notice is minimal glare from the flat picture tube. This flat-screen technology improves picture detail without distortion, unlike conventional curved screens. The FD Trinitron delivers outstanding image detail not only at the screen center, but also at the corners — so you can enjoy a bright, clear picture from any location in a room.

Features

Some of the features that you will enjoy with your new TV include:

- **DRC Mode (Digital Reality Creation):** Unlike conventional line doublers, the DRC feature doubles vertical and horizontal lines, resulting in four times the density for quality sources such as DVD, Satellite and Digital camcorder.
- **Cinemotion:** Provides an optimized display by automatically detecting film content and applying a reverse 3/2 pulldown process. Moving pictures will appear clearer and more natural-looking.
- **Twin View™:** Using Multi-Image Driver (MIDX), Twin View allows you to watch two programs side by side, with the ability to zoom in one picture. You can watch pictures from two different sources simultaneously.
- **16:9 Enhancement:** Vertical Compression technology that maximizes picture resolution on "anamorphic" or "enhanced for widescreen" sources, including selected DVDs.
- **Velocity Modulation:** Vertical line enhancement that sharpens picture definition.
- **Steady Sound:** Equalizes volume levels so there is consistent output between programs and commercials.
- **Parental Control:** V-Chip technology allows parents to block unsuitable programming for younger viewers.
- **Component Video Inputs:** Offers the best video quality for DVD (480p, 480i), and Digital Set-top box (HD1080i) connections.
- **S VIDEO Inputs:** Provides a high-quality video signal from connected equipment.
- **Favorite Channel Preview:** Preview up to eight favorite channels without leaving the current channel.

Package Contents

Along with your new Trinitron TV, the packaging box contains a remote control and two AA batteries These items are all you need to set it up and operate the TV in its basic configuration.

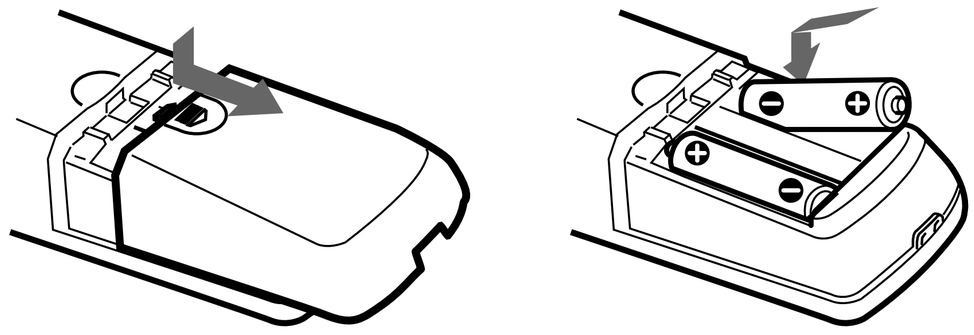
Most peripherals come with the necessary cables to connect them. If you want to set up special configurations, you may need to buy extra cables or connectors. It is best to ensure that you have all needed materials on hand before beginning a special-connection project.

Using the Remote Control

The remote control is the primary mechanism for controlling your TV. Handle the remote control with care; avoid dropping it, getting it wet, placing it in direct sunlight, near a heater, or where the humidity is high.

Inserting Batteries

Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the battery compartment.

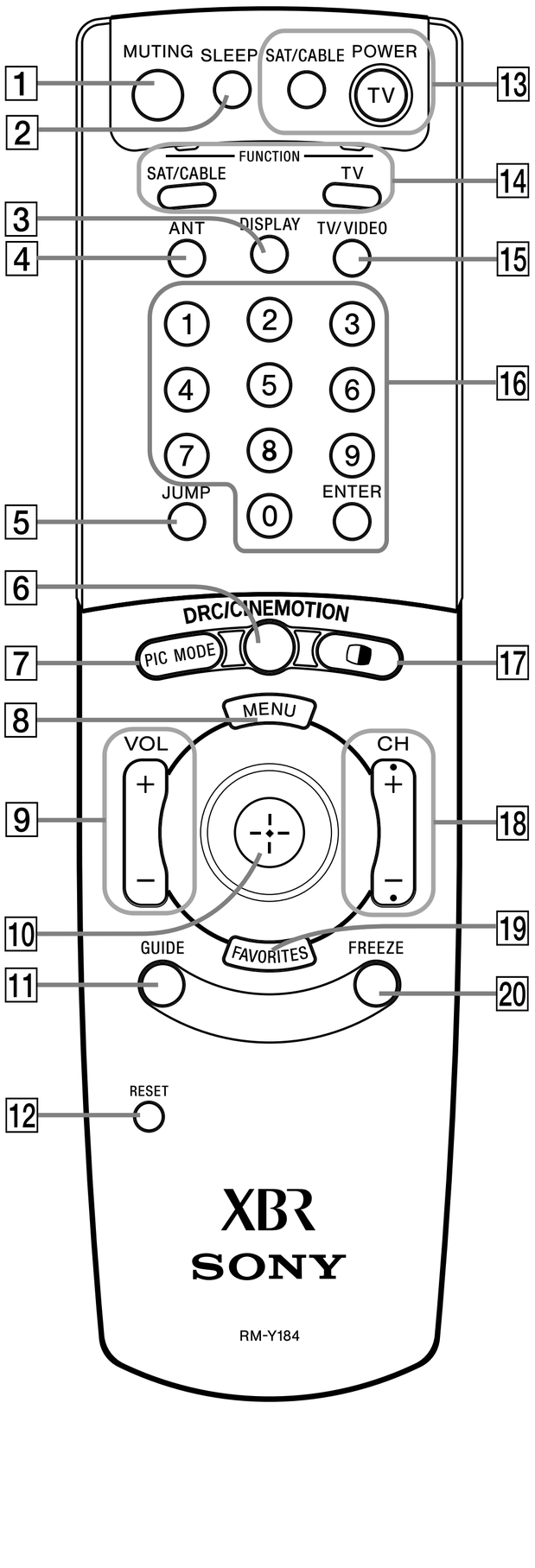


✍ Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.

The following table describes the buttons on the remote control that are for more advanced functions.

✍ Main Power button must be turned ON to activate the Remote Control.

Button Descriptions



Outside Panel

Button	Description
1 MUTING	Press to mute the sound. Press again or press VOL + to restore the sound.
2 SLEEP	Press repeatedly until the TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the TV to remain on before shutting off automatically. Cancel by pressing until SLEEP OFF appears. While Sleep feature is set, press once to view remaining time
3 DISPLAY	Press once to display the current time and channel label (if set) and channel number. Press again to turn Display off. See page 46 for details on setting the time.
4 ANT	Changes between the VHF/UHF input to the AUX input.
5 JUMP	Press to jump back and forth between two channels. The TV alternates between the current channel and the last channel that was selected.
6 DRC/ CINEMOTION	For high quality sources (i.e., DVD player, Satellite Receiver), this button cycles through the available high-resolution picture modes: Interlaced, Progressive, Cinemotion. Also available in the Video menu. For details, see “Selecting Video Options” on page 36.
7 PIC MODE	Cycles through the available video picture modes: Vivid, Standard, Pro, Movie. Also available in the Video menu. For details, see “Selecting Video Options” on page 36.
8 MENU	Press to display the TV on-screen menu. Press again to exit from the menus.
9 VOL +/-	Adjusts the volume.
10	Joystick allows for movement of the on-screen cursor. Pressing down on the center of the joystick selects the item.
11 GUIDE	Displays the program guide of your satellite antenna.
12 RESET	Press when in a menu to reset the settings to the factory defaults.
13 POWER buttons (GREEN)	Turn on and off the TV and SAT/CABLE equipment you have programmed into the remote control. For instructions, see “Programming the Remote Control” on page 50.

To scan rapidly through the channels, press and hold down the CH+ or CH- button.

	Button	Description
14	FUNCTION buttons	Select the equipment (TV or SAT/CABLE) that you want to operate. The indicator lights up momentarily when pushed to show which device the remote control is operating.
15	TV/VIDEO	Cycles through the video equipment connected to you TV's video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4, VIDEO 5, VIDEO 6.
16	0 – 9 and ENTER	Press 0 - 9 to select a channel, the channel changes after 2 seconds. Press ENTER to select immediately.
17		Turns on / off Twin View. For details, see "Using Twin View" on page 31.
18	CH +/–	Scan through channels.
19	FAVORITES	Displays the Favorite Channels list. For details, see "Using Favorite Channels" on page 30.
20	FREEZE	Freezes the window picture. Press again to restore the picture.

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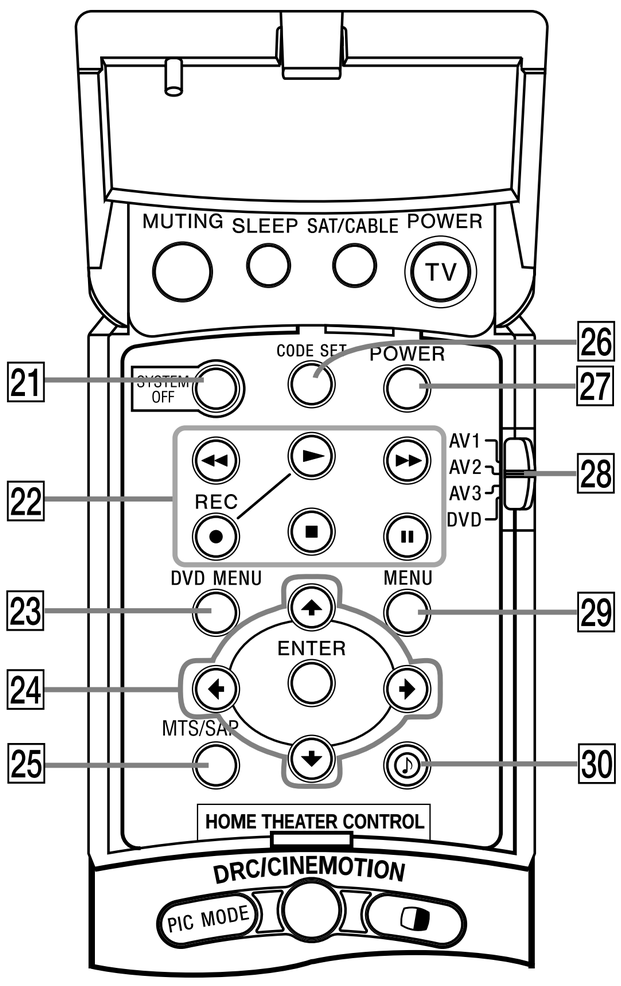


Inside Panel

21	SYSTEM OFF	Powers off all Sony equipment at once. (This feature may not work with older Sony equipment.)
22	VCR/DVD CONTROLS	
	◀◀	Rewind
	REC	Record
	▶▶	Fast-forward
	▶	Play
	■	Stop
	❚❚	Pause
23	DVD MENU	Displays the DVD Disc menu
24	◉ ◉ ◉ ◉ and ENTER	Used for DVD on-screen menu movement and selection
25	MTS/SAP	Cycles through the Multi-channel TV Sound (MTS) options: Stereo, Auto-SAP (Second Audio Program), and Mono. For details, see “Using the Audio Menu” on page 38.
26	CODE SET	Used for programming the remote control to operate non-Sony video equipment. For details, see “Programming the Remote Control” on page 50.
27	POWER	Turn on and off the VCR / DVD equipment you have programmed into the remote control. For instructions, see “Programming the Remote Control” on page 50.
28	AV1 AV2 AV3 DVD	Use to switch control for connected video equipment. You can program one video source for each switch position. (For details, see “Programming the Remote Control” on page 50.)
29	MENU	Used for DVD player setup menu.
30	◉ ♪	Provides quick access to change available audio settings. For details, see “Selecting Audio Options” on page 38.

Installing the TV

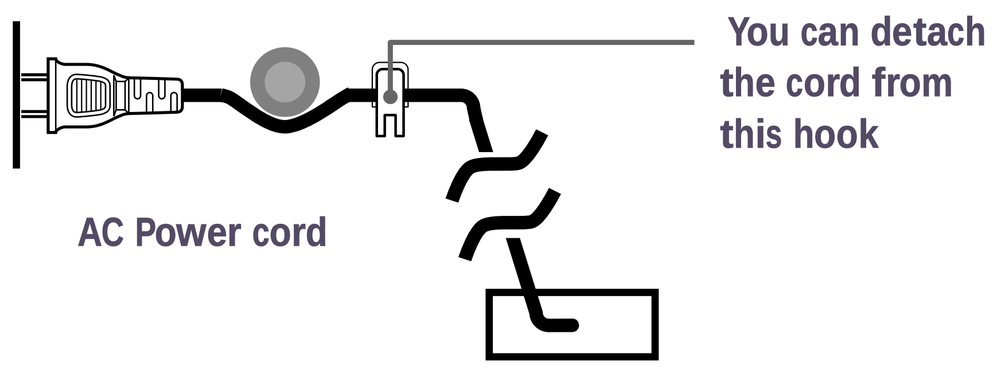
Overview

This chapter includes illustrated instructions for setting up your TV.

Topic	Page
TV Controls and Connectors	8
Basic Connection (Connecting Cable TV or Antenna)	10
Connecting a VCR and Cable	14
Connecting a VCR and Cable Box	15
Connecting Two VCRs for Tape Editing	18
Connecting a Satellite Receiver	19
Connecting a Satellite Receiver with a VCR	20
Connecting an Audio Receiver	22
Connecting a DVD Player with Component Video Connectors	23
Connecting a DVD Player with A/V Connectors	24
Connecting a Digital TV Receiver	25
Using the CONTROL S Feature	27
Setting Up the TV Automatically	28

Note About the AC Power Cord

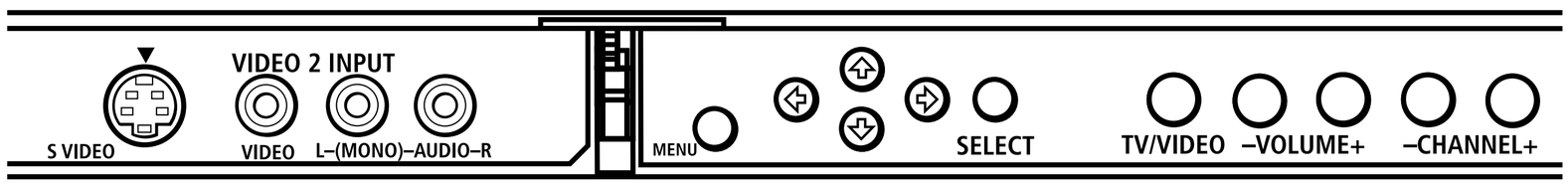
The AC power cord is attached to the rear of the TV with a hook. Use caution when removing the AC plug from its holder. Gently slide the plug in the upward direction to remove from hook. Once removed, the AC power plug should automatically disengage from its stored location.



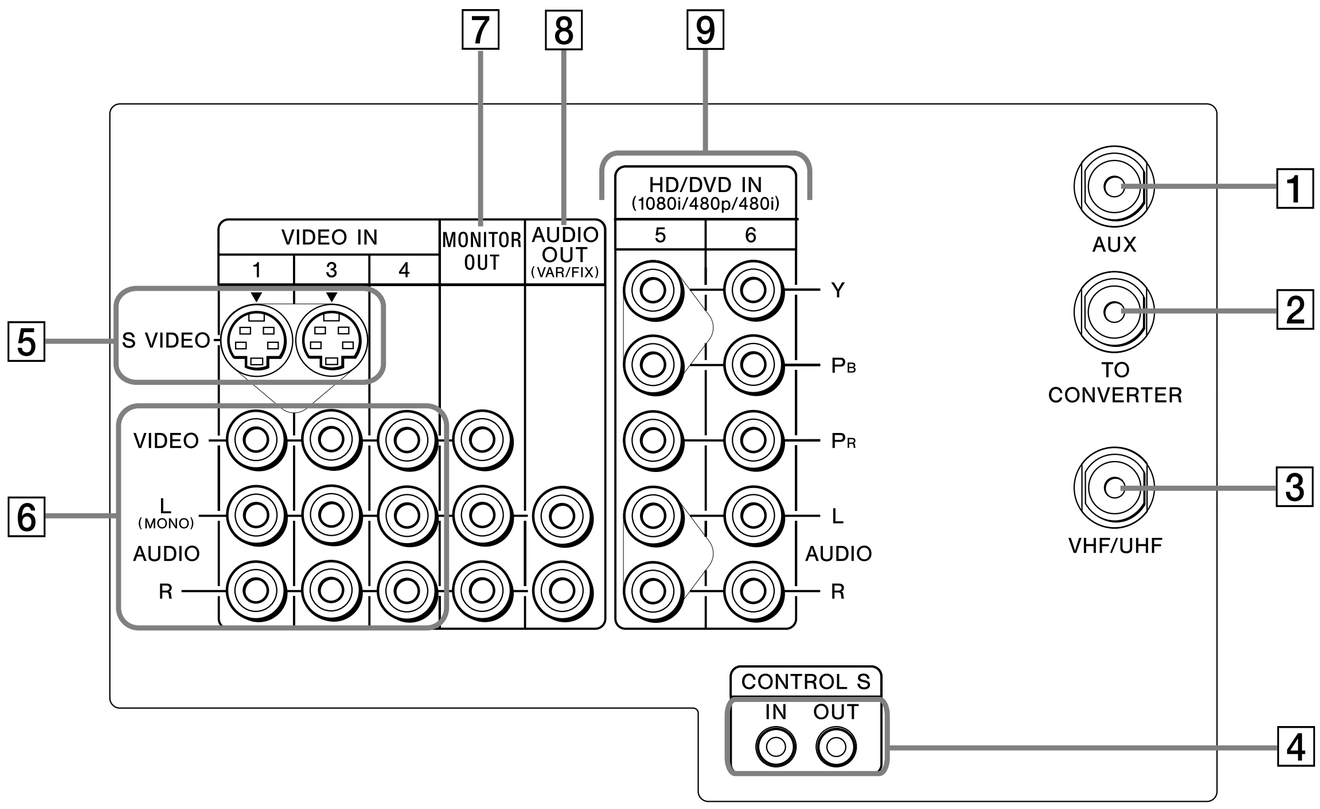
TV Controls and Connectors

Front Panel Menu Controls

The front panel menu controls allow access to the on-screen menus without the use of a remote control. Pressing the MENU button brings up the on-screen menus. The arrow buttons move the on-screen cursor in the menus and the SELECT button selects the menu item.



TV Rear Panel



	Connection	Description
1	AUX	Allows you to view local and cable channels if your cable provider does not feature local channels. You can switch between local and cable channels by pressing ANT on the remote control. Devices connected to the AUX input can be viewed only in the Twin View left picture.
2	TO CONVERTER	This is a VHF/UHF OUT jack that lets you set up your TV to switch between scrambled channels (through a cable box) and normal cable channels (CATV). Use this jack instead of a splitter to get better picture quality when switching between scrambled and unscrambled cable channels.

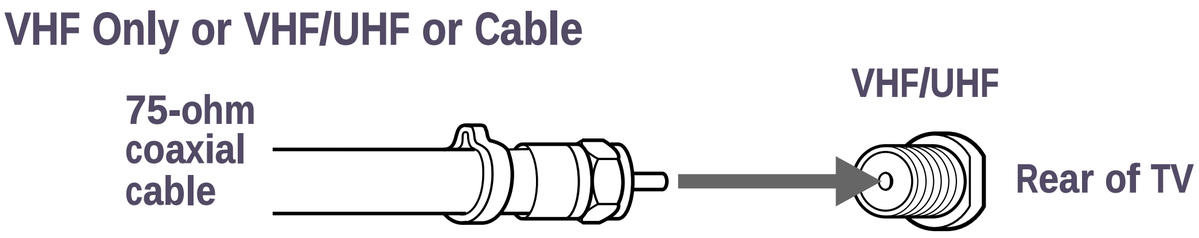
	Connection	Description
3	VHF/UHF	Connects to your VHF / UHF antenna or cable.
4	CONTROL S IN/OUT	Allows the TV to receive (IN) and send (OUT) remote control signals to other Sony infrared-controlled audio or video equipment.
5	S VIDEO	Connects to the S VIDEO OUT jack of your VCR or other S VIDEO-equipped video equipment. Provides better picture quality than the VHF / UHF jacks or the Video IN jack.
6	VIDEO/AUDIO(L/R)	Connect to the audio and video OUT jacks on your VCR or other video equipment. A video input (VIDEO 2) is located on the front panel of the TV. The Audio and Video IN jacks provide better picture quality than the VHF / UHF IN jack.
7	MONITOR OUT	Lets you record the program you are watching to a VCR. When two VCRs are connected, you can use your TV as a monitor for tape-to-tape editing (not available with 480p or 1080i when the input is to VIDEO 5 or 6).
8	AUDIO OUT (VAR/FIX) L (MONO)/R	Connect to the left and right audio inputs of your audio or video equipment.
9	HD/DVD IN (1080i/480p/480i)	Connect to your DVD player's or Digital Set-top box's component video (Y, PB, PR) and audio (L / R) jacks.

Basic Connection (Connecting Cable TV or Antenna)

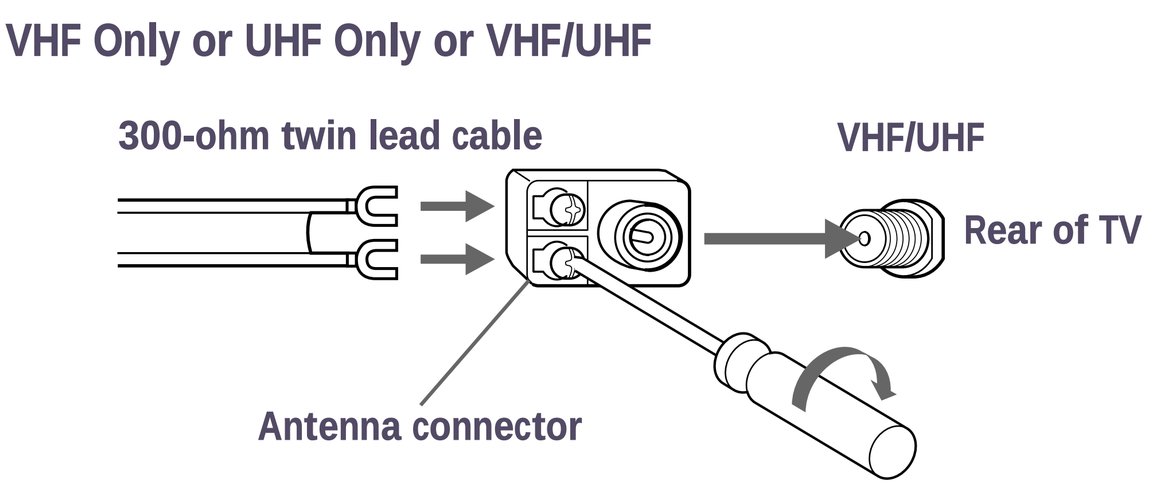
Connecting Directly to Cable or to an Antenna

The connection you choose depends on the cable found in your home.

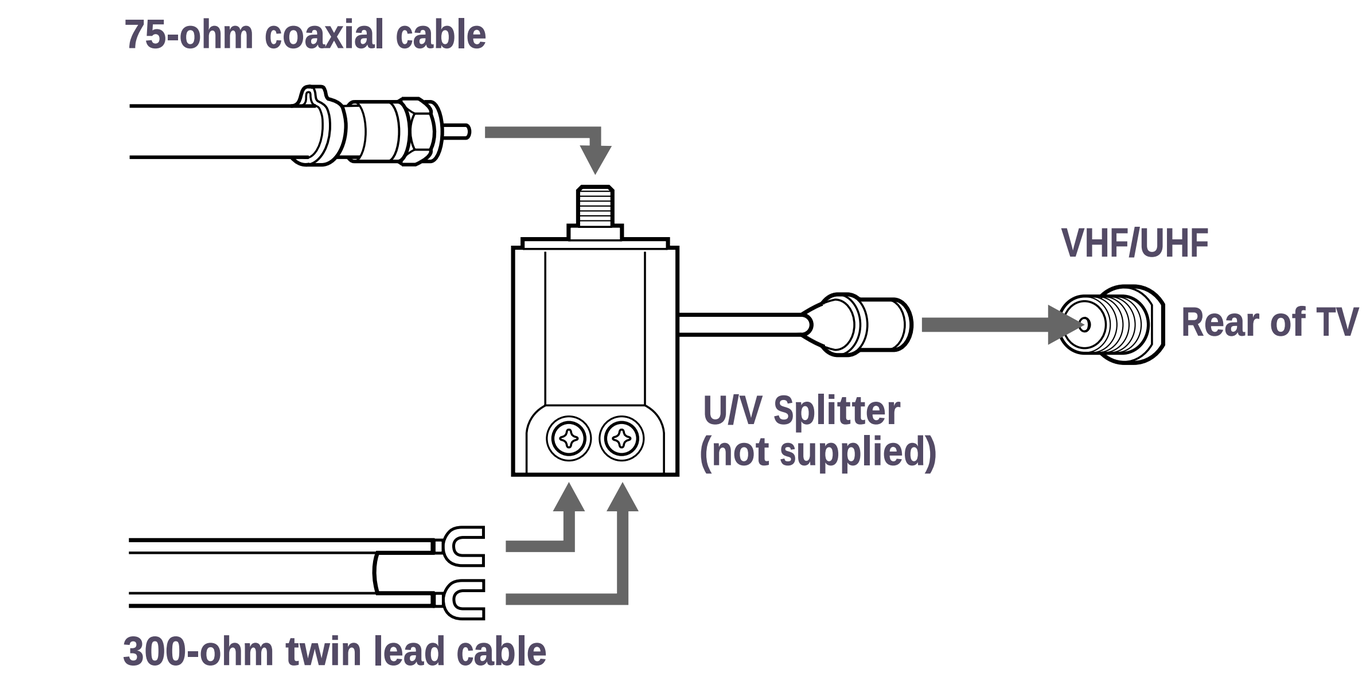
Newer homes are usually equipped with standard coaxial cable:



Older homes may have 300-ohm twin lead cable:

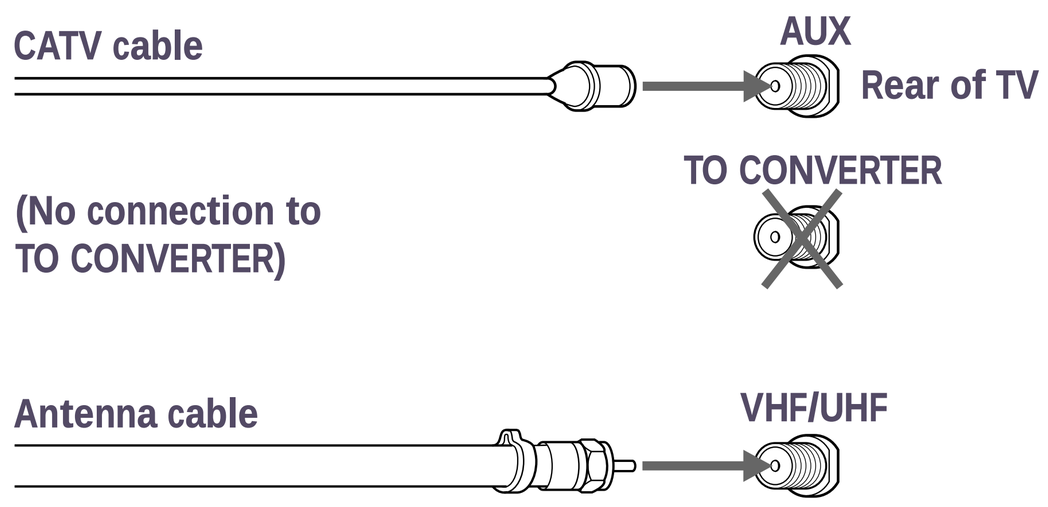


Some homes may have both:



Cable and Antenna

If your cable provider does not feature local channels, you may find this set-up convenient.



Select CABLE or antenna (ANT) mode by pressing ANT on the remote control.

To receive channels using an antenna, instead of the CATV cable:

1. Select antenna mode by pressing ANT on the remote control.
2. Turn the cable to OFF (see page 40).
3. Perform the Auto Program function (see page 40).

Cable Box Connections

Cable Box and Cable

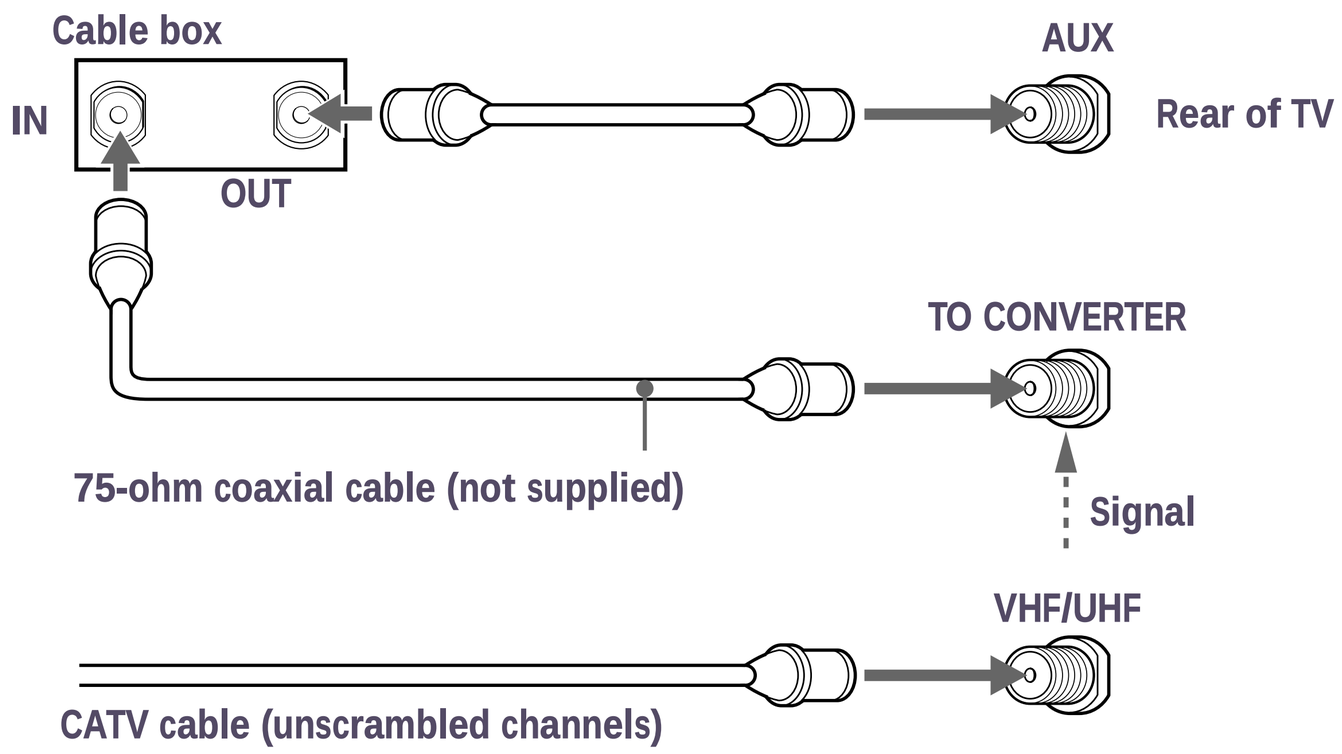
This is the preferred basic cable TV hookup to use if your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels), so you need to use a cable box.

With this setup you can:

- Use the TV remote control to change channels using your cable box when the signal is scrambled.
- Use the TV remote control to change channels using your TV when the signal is not scrambled. (Your TV's tuner provides a better signal than the cable box.)
- Use the Twin View feature. (When all channels are routed through your cable box, only one signal is sent to the TV, so you can not use the Twin View feature.)
- Use the Twin VIew feature normally with the CATV input.
- Use the Twin View feature partially with the cable box. (When you switch the TV input to AUX - to use the cable box - the unscrambled picture from the cable box will display. You can display the signal from both AUX and VHF/UHF inputs in the left Twin View picture, but you can display only the signal from the VHF/UHF input in the right Twin VIew picture.

To set up your TV to use both a Cable Box and a direct-connect CATV cable:

1. Connect the Cable TV cable to the TV's VHF/UHF jack.
2. Using a coaxial cable, connect the TV's TO CONVERTER jack to the cable box's IN jack. The TV's internal converter allows you to switch between unscrambled signals coming straight into the TV and scrambled signals coming in through the cable box, eliminating the need for an external splitter.
3. Using a coaxial cable, connect the cable box's OUT jack to the TV's AUX jack.



To switch between channels from Cable Box and channels coming directly into TV

- ❑ Press the ANT button on the TV remote control.

To use the TV remote control to switch channels on the cable box

- ❑ Program the remote control as necessary. (See "Programming the Remote Control" on page 50.)

To use the cable box

- ❑ Have your TV tuner set to channel 3 or 4 (as appropriate) and then use the Cable Box to change channels.

To prevent the accidental switching of TV channels

- ❑ When using the VCR of Cable Box, you can use the Channel Fix feature to lock in a channel. The Channel Fix feature is under the Channel menu. (See "Using the Channel Menu" on page 40.)

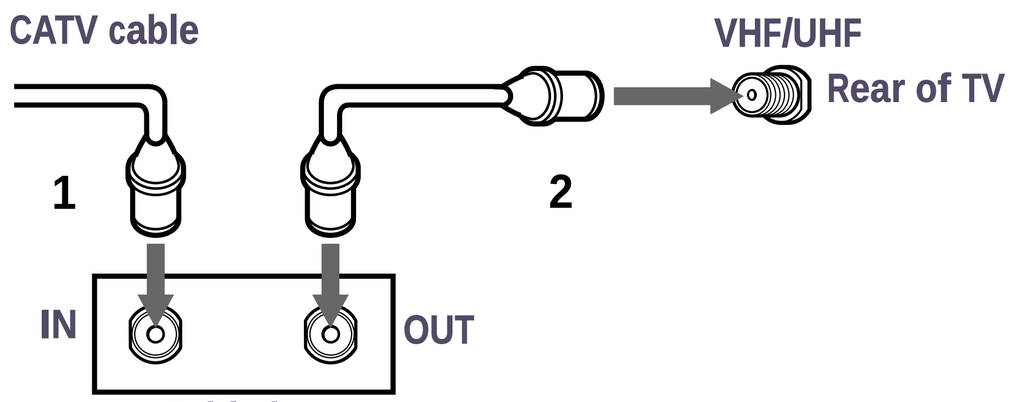
Cable Box Only

Use this hookup if:

- ❑ You subscribe to a cable TV system that uses scrambled or encoded signals requiring a cable box to view all channels, and
- ❑ You do not intend to hook up any other audio or video equipment to your TV.

When all channels are routed through your cable box, only one unscrambled signal is sent to the TV, so you cannot use the Twin View feature. If some channels are scrambled, but others are not, consider using the hookup on page page 12 instead.

1. Connect the coaxial connector from your cable service to the cable box's IN jack.
2. Using a coaxial cable, connect the cable box's OUT jack to the TV's VHF / UHF jack.



Cable box

To use the cable box

- ❑ Have the TV tuner set to channel 3 or 4 (as appropriate) and then use the cable box to change channels.

To use the TV remote control to switch channels on the cable box

- ❑ Program the remote control as necessary. For details, see "Programming the Remote Control" on page 50.

To prevent accidental switching of TV channels

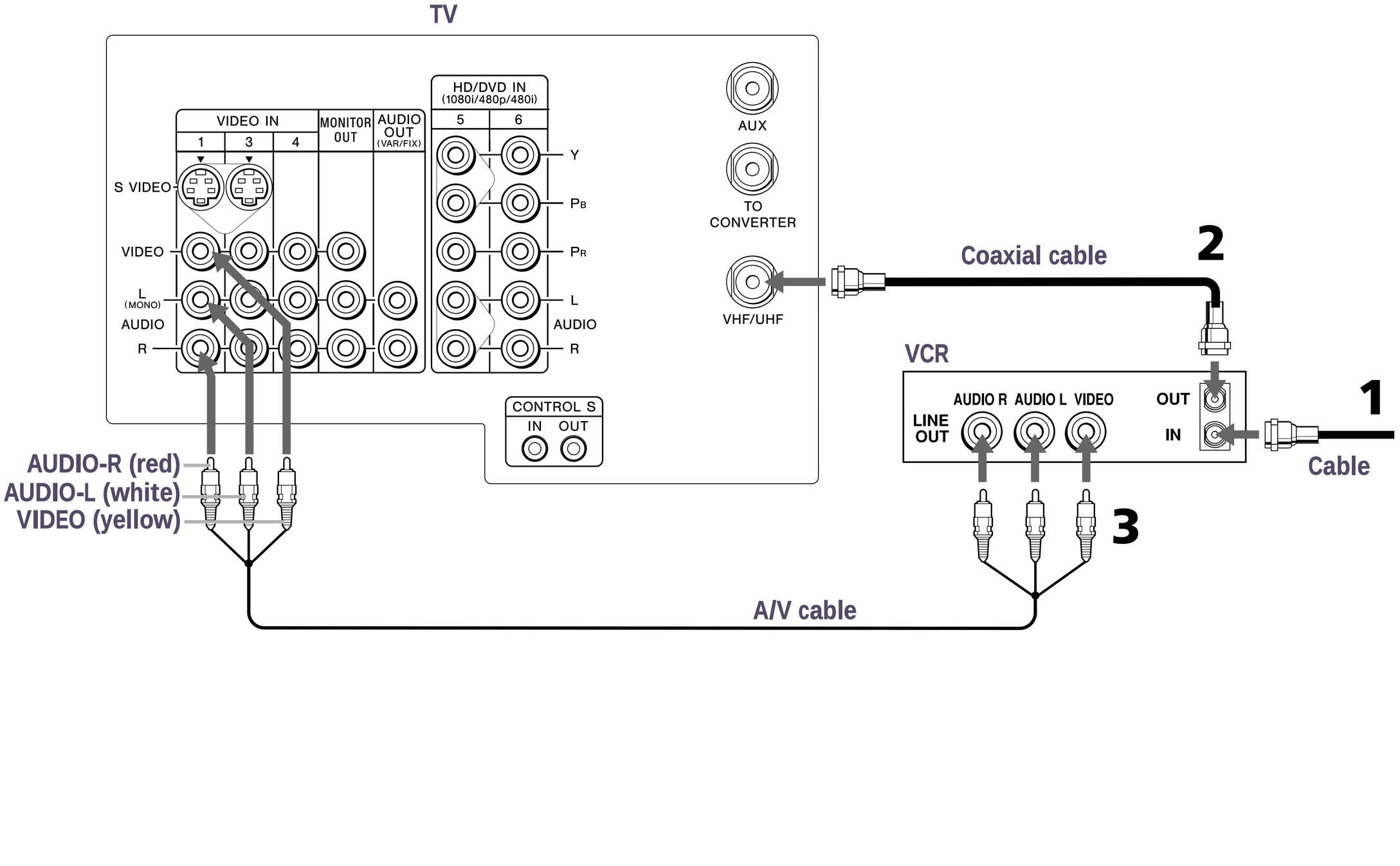
- ❑ Use the Channel Fix feature to lock in a channel. The Channel Fix feature is under the Channel menu. For details, see "Using the Channel Menu" on page 40.

Connecting a VCR and Cable

Use this hookup if you have cable TV that does not require a cable box.

1. Connect the cable TV cable to the VCR's IN jack.
2. Using a coaxial cable, connect the VCR's OUT jack to the TV's VHF/UHF jack.
3. Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.

✍ If the VCR you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because an S VIDEO cable carries only the video signal, you will need audio cables for sound.



Connecting a VCR and Cable Box

Use this hookup if:

- Your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels), so you need to use a cable box, and
- You want to use the Twin View feature.

With this setup you can:

- Use the TV remote control to change channels using your cable box when the signal is scrambled.
- Use the TV remote control to change channels using your TV when the signal is not scrambled. (Your TV's tuner provides a better signal than the cable box.)
- Use the Twin View feature.
- Record both regular CATV and scrambled channels.

To connect a cable box and a VCR, you will need:

- A small, inexpensive device known as a splitter.
- Three coaxial cables.
- Either a combination audio / video cable, or an S VIDEO cable and audio cables.

1. Connect the CATV cable to the single (input) jack of the splitter.
2. Use a coaxial cable to connect one of the two output jacks of the splitter to the TV's VHF / UHF jack.
3. Use a coaxial cable to connect the other output jack of the splitter to the input jack of the cable box.
4. Use a coaxial cable to connect the output jack of the cable box to the input jack of the VCR.
5. Use the video line (yellow) of a combination audio / video (A / V) cable to connect the video output jack of the VCR to the video input jack of the TV.

> ✍ If your VCR has an S VIDEO jack, you can substitute an S VIDEO cable for the video line of an A/V cable. The S VIDEO cable will provide improved video signal quality. (You will need audio cables for sound.)

Connect the left (white) and right (red) audio output channels of the VCR to the respective input channels on the TV.

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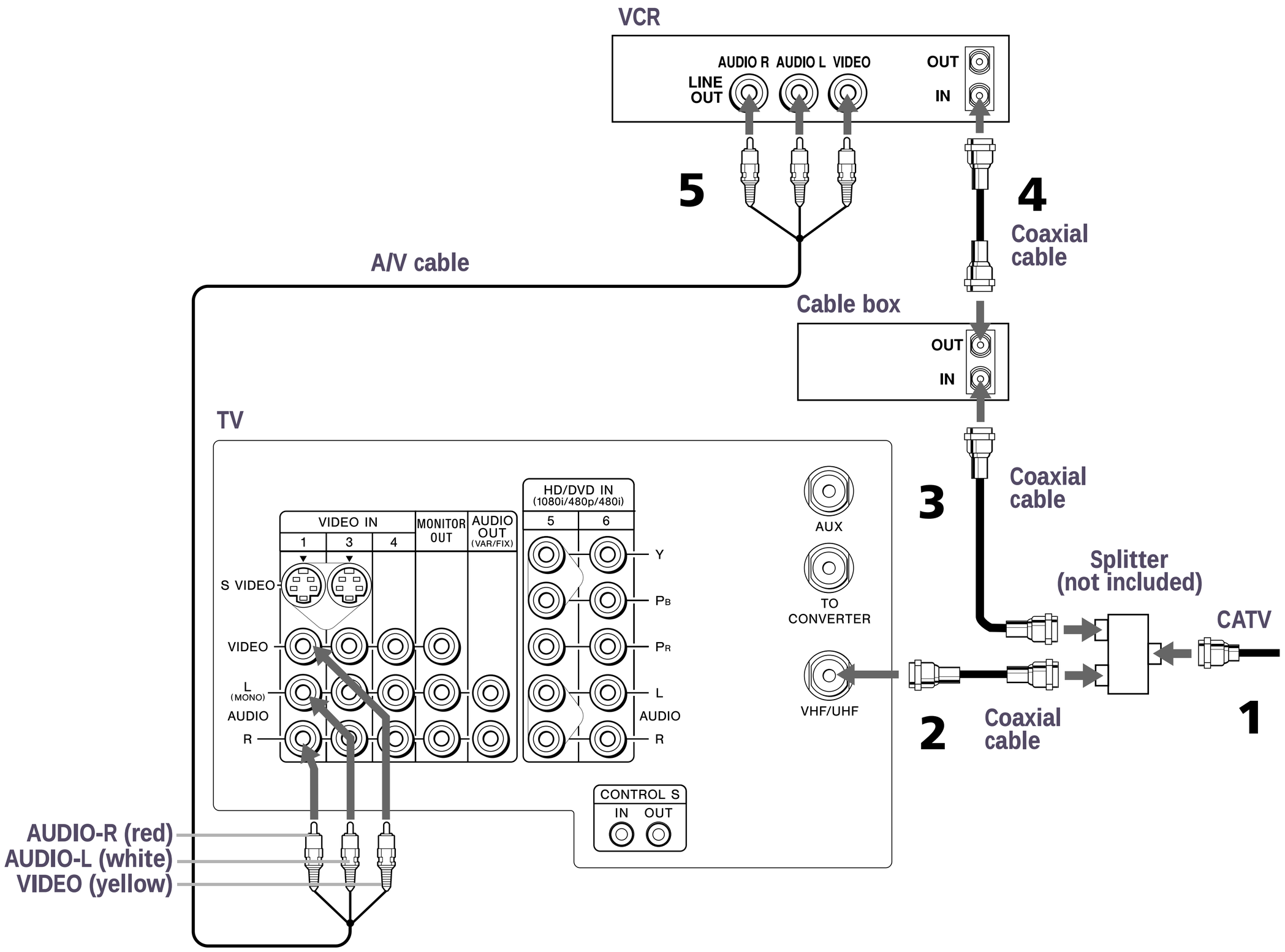


To switch between channels from cable box and channels from CATV

❑ Press the ANT button on the TV remote control.

To use the TV remote control to change channels on the VCR

❑ Program the remote control as necessary. (By default, the remote control is set for a Sony VCR; to change to another brand, see “Programming the Remote Control” on page 50.) Then use the VCR buttons on the remote control to change channels.

To use the TV remote control to change channels on the cable box

❑ Program the remote control as necessary. (For details, see “Programming the Remote Control” on page 50.) Then use the remote control to change the cable box channels.

To view cable box channels

❑ Set your TV to channel 3 or 4 (as appropriate) and then change channels on the cable box.

To prevent accidental switching of TV channels while using the cable box

❑ It is a good idea to use the Channel Fix feature of your TV when using the VCR or cable box. The Channel Fix feature locks the TV tuner to a specific channel (such as 3 or 4). The Channel Fix feature is under the Channel menu. (For details, see “Using the Channel Menu” on page 40.)

To use Twin View with the cable box

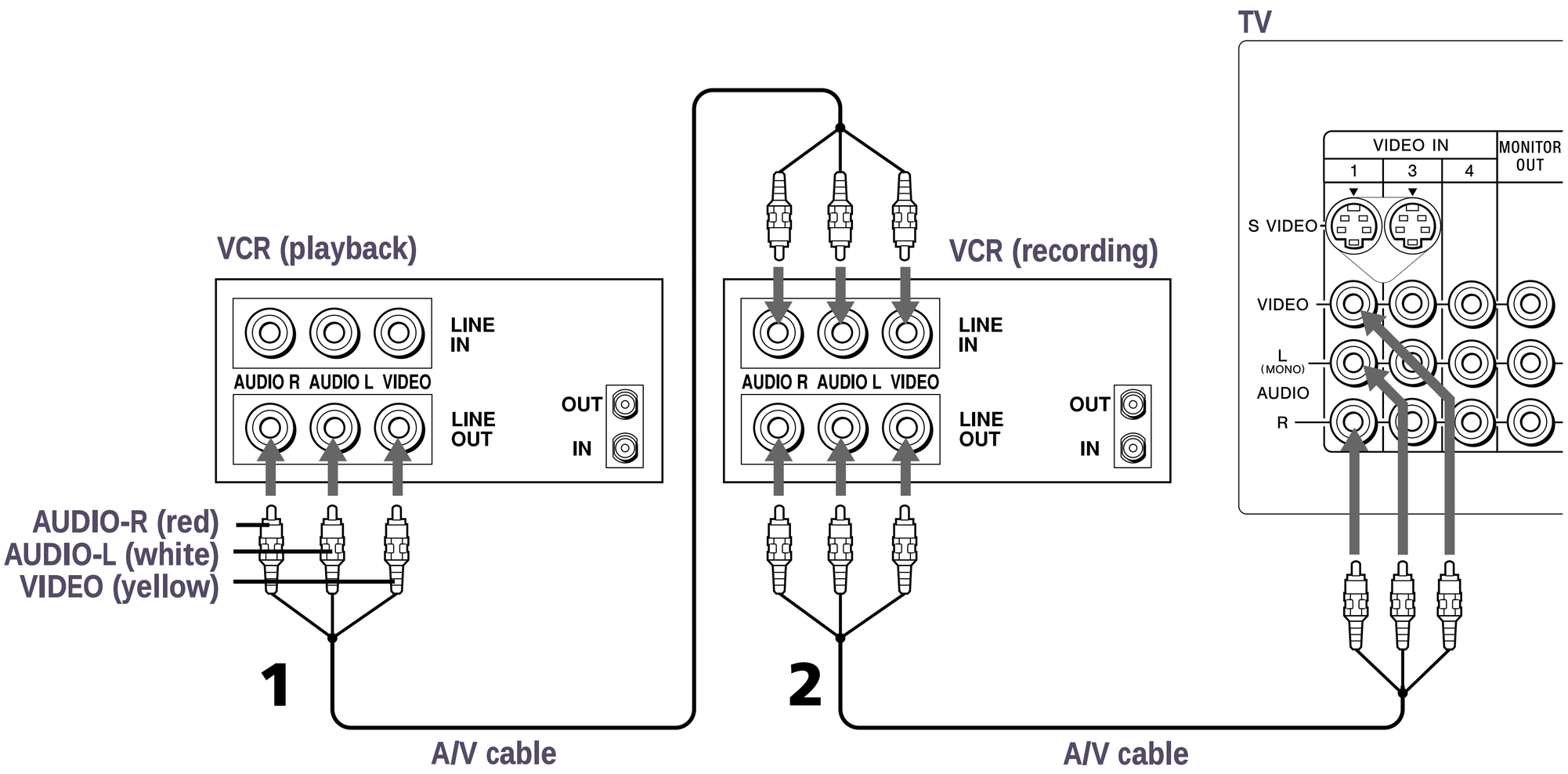
❑ Turn on the VCR. Use the remote control’s TV/VIDEO button to set the Twin View output to VIDEO 1. Change the Twin View channel via the VCR. (The VCR’s tuner is used as one of the Twin View picture sources; if you do not turn on the VCR, the Twin View will not work.)

✍ This system is needed because the cable box unscrambles only one channel at a time (unlike the CATV cable, which makes all channels available concurrently).

Connecting Two VCRs for Tape Editing

If you connect two VCRs, so you can record from one to the other, you can connect the recording VCR into your TV to monitor what is being recorded. The procedure below shows you how to do this.

1. Using an A/V cable, connect the playback VCR's Audio and Video OUT jacks to the recording VCR's Audio and Video IN jacks.
2. Using an A/V cable, connect the recording VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



To change the video input of the VCR

❑ See your VCR's user guide for instructions.

To view what is being recorded

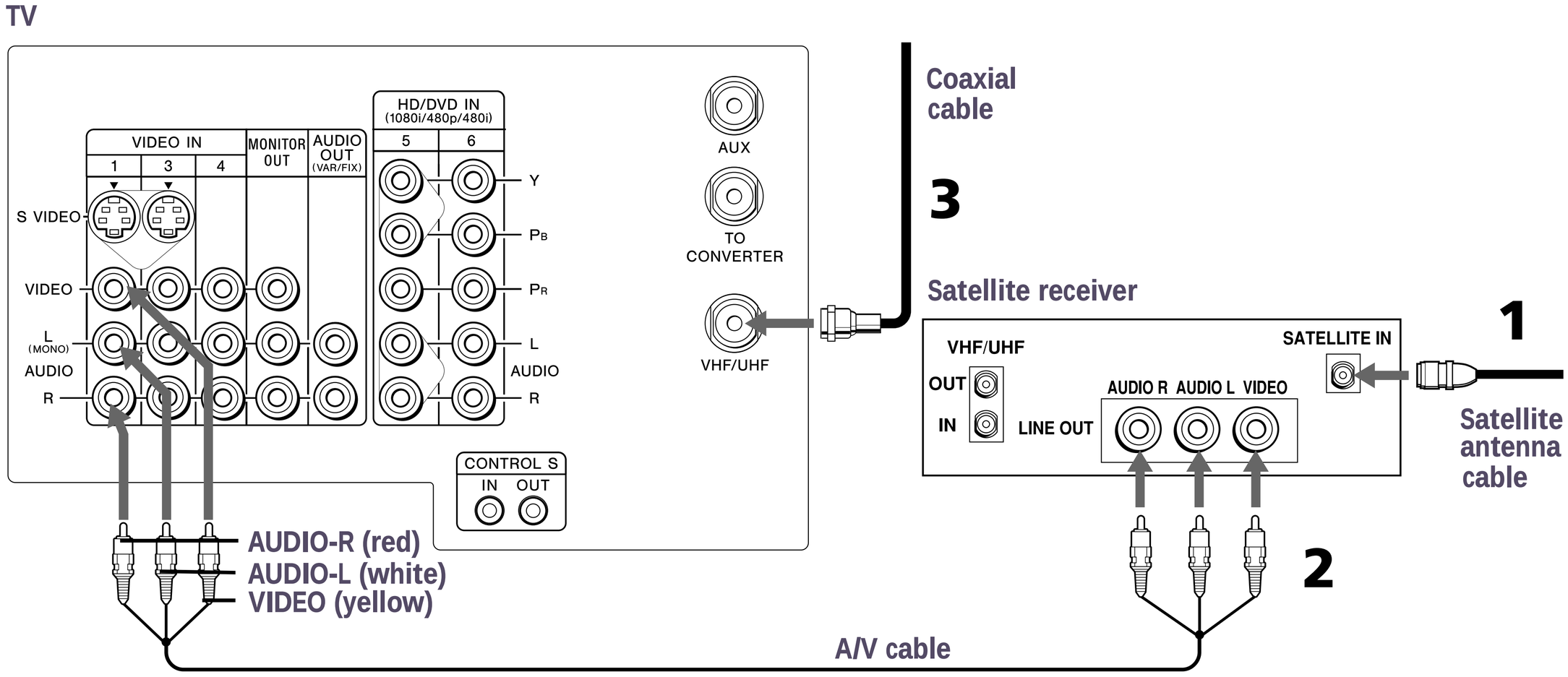
❑ Use the remote control to set the TV to the video input to which the recording VCR is connected. (VIDEO 1 in the illustration above.)

✍ If the VCRs you are connecting have S VIDEO jacks, you can use S VIDEO cables for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will need audio cables for sound.

Connecting a Satellite Receiver

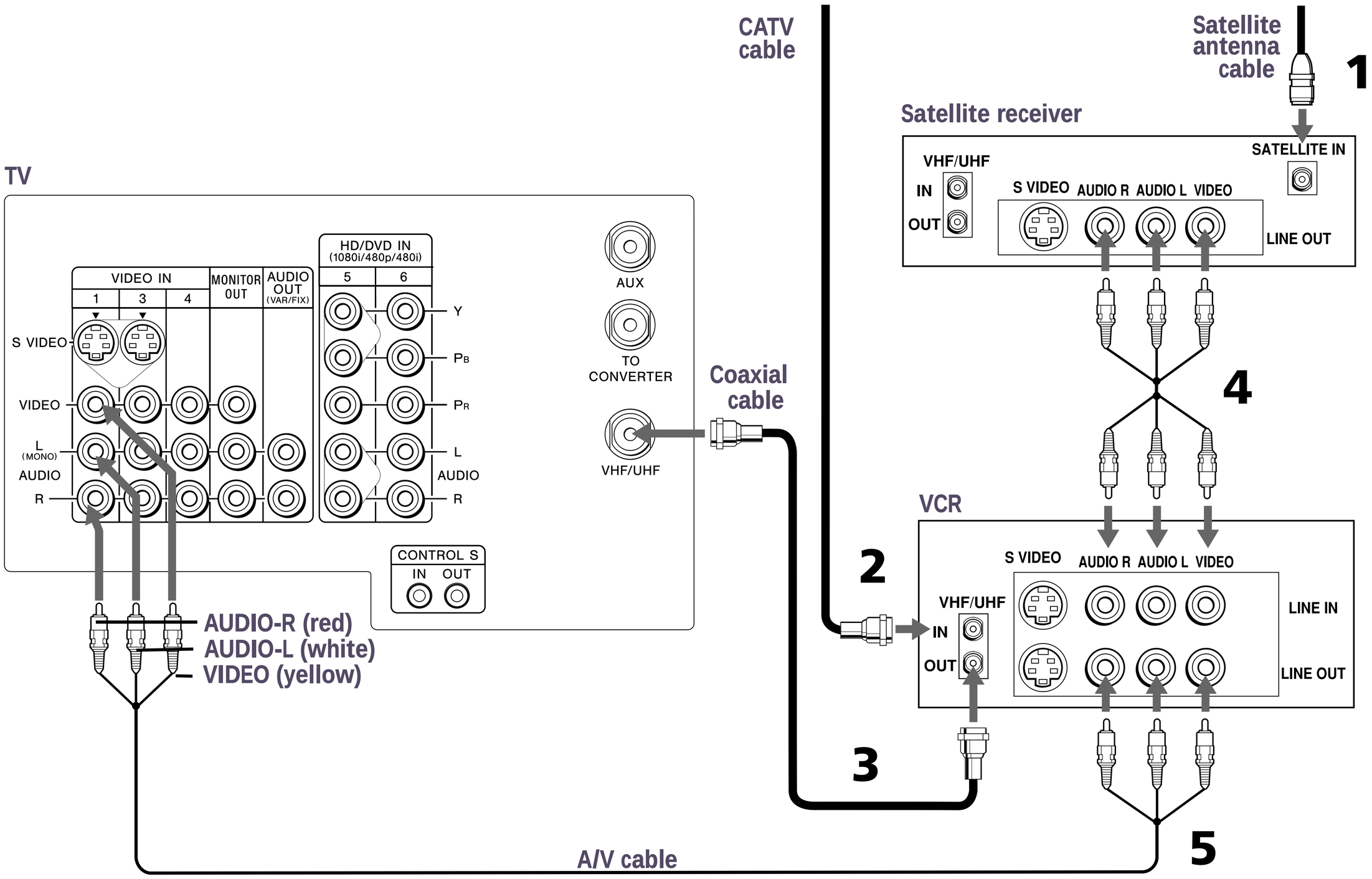
1. Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
2. Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.
3. Connect a coaxial cable from your cable or antenna to the TV's VHF/UHF jack.

✍ If the receiver you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will need audio cables for sound.



Connecting a Satellite Receiver with a VCR

1. Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
2. Connect the CATV cable to the VCR's VHF / UHF IN jack.
3. Using a coaxial cable, connect the VCR's OUT jack to the TV's VHF / UHF jack.
4. Using an A / V cable, connect the satellite receiver's Audio and Video OUT jacks to the VCR's Audio and Video IN jacks.
5. Using an A / V cable, connect the VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



✍ If the peripherals you are connecting have S VIDEO jacks, you can use S VIDEO cables for improved picture quality (compared to combination audio/video cables). Because S VIDEO cables carry only the video signal, you will need audio cables for sound.

6 If necessary, change the video input on your VCR. (See your VCR's user's guide for instructions on how to do that.)

To watch satellite TV, or the VCR

❑ Press TV/VIDEO on the remote control to select VIDEO 1.

To watch cable TV

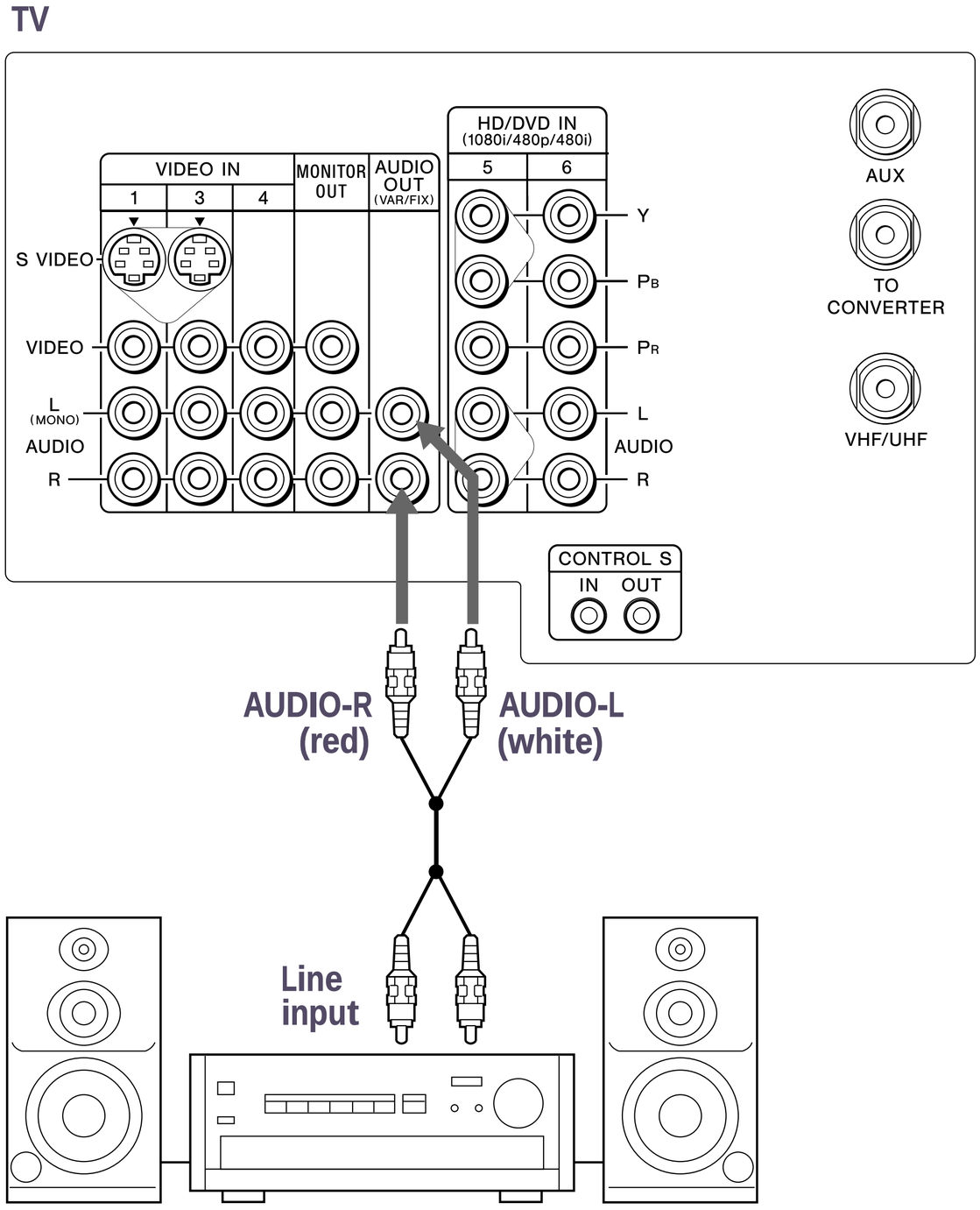
❑ Press TV/VIDEO on the remote control to select VHF / UHF (to select the CATV cable on the TV).

Connecting an Audio Receiver

For better sound quality, you may want to connect your TV to your stereo system's audio receiver.

To connect to an audio receiver

❑ Use audio cables to connect the TV's Audio OUT jacks to the audio receiver's audio LINE IN jacks.



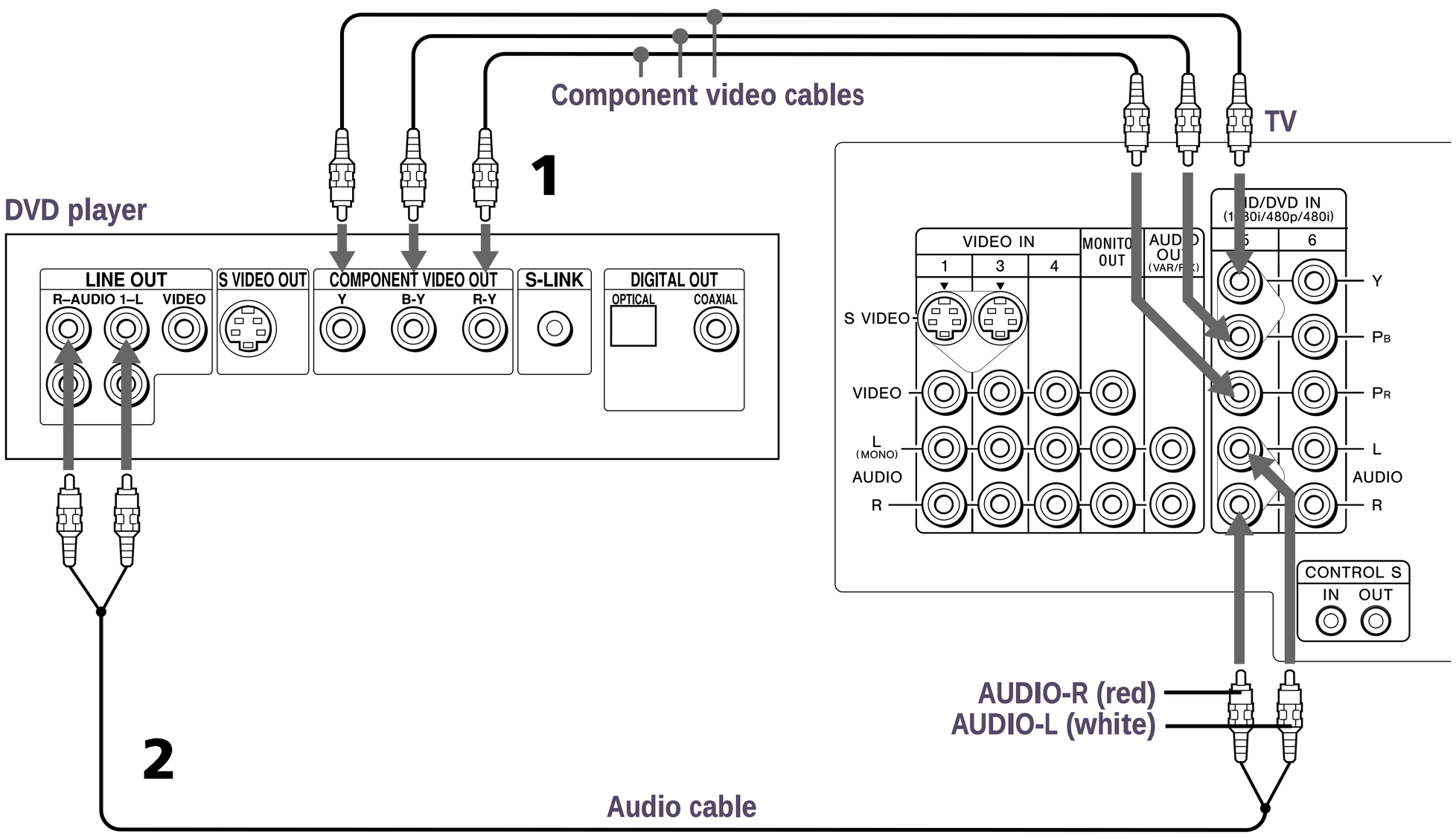
Connecting a DVD Player with Component Video Connectors

This is the preferred hookup to use if your DVD player has component (Y, P_B, P_R) jacks.

1. Using three separate component video cables, connect the DVD player's Y, P_B and P_R jacks to the Y, P_B and P_R jacks on the TV — the number 5 or 6 connections under HD/DVD IN.

✍ The Y, P_B and P_R jacks on your DVD player are sometimes labeled Y, C_B and C_R, or Y, B-Y and R-Y. If so, connect the cables to like colors.

2. Using an audio cable, connect the DVD player's Audio OUT jacks to the TV's Audio IN jacks. Be sure to use the same column of inputs that you used for the video connection (HD/DVD IN 5 or 6).



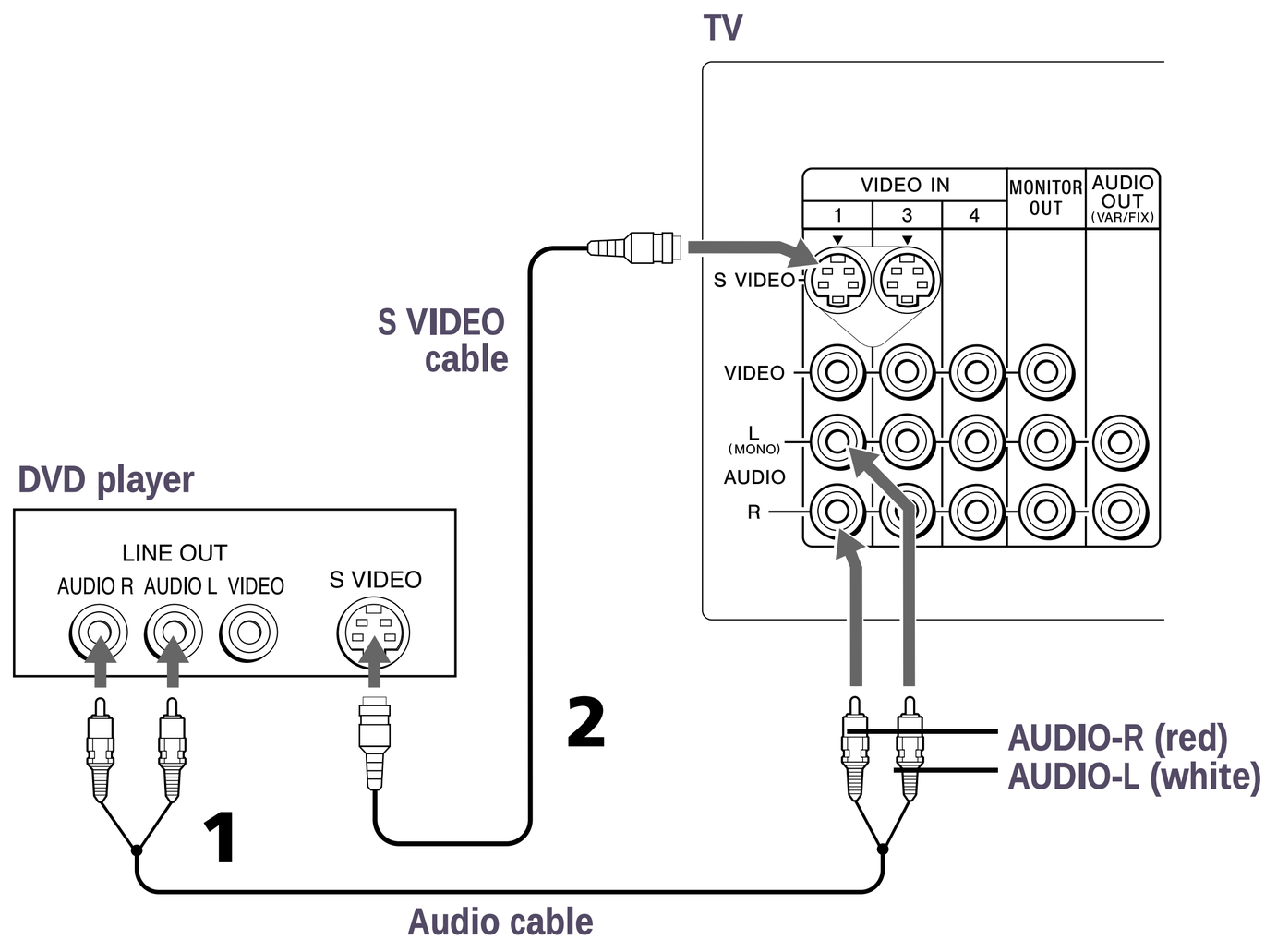
✍ You cannot use the MONITOR OUT jacks to record the signal from any equipment connected into the Y, P_B, P_R jacks.

Connecting a DVD Player with A/V Connectors

Use this hookup if your DVD player does not have component (Y, PB, PR) jacks.

> ✍ An S VIDEO connection will give a good-quality video signal, but if your DVD player has component video, that connection (described on the previous page) will give an even better signal.

1. Using audio cables, connect the DVD player's Audio OUT jacks to the TV's Audio IN jacks.
2. Using an S VIDEO cable, connect the DVD player's S VIDEO jack to the TV's S VIDEO jack.



To switch between your TV and DVD

❑ Use the TV/VIDEO button on the TV's remote control to switch from one input device to another.

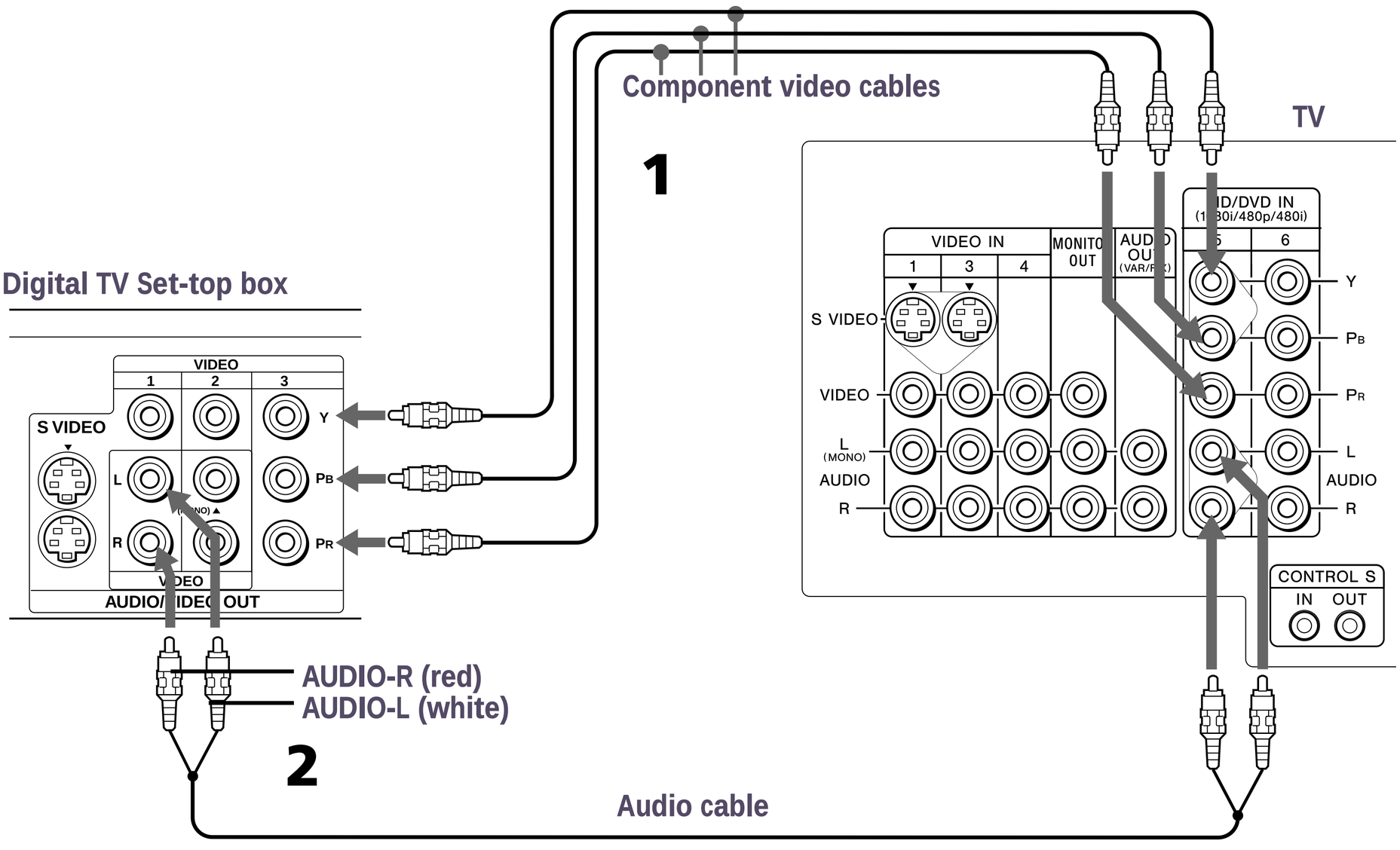
Connecting a Digital TV Receiver

Be sure to read the manual for the Set-top box.

1 Using three separate component video cables, connect the Digital TV Set-top box's Y, P_B and P_R jacks to the TV.

If you prefer, you can use an S VIDEO cable instead of the Y, P_B and P_R connections. The Y, P_B and P_R connections will provide the best-quality picture, but you cannot record the signal from any equipment connected to the Y, P_B and P_R inputs.

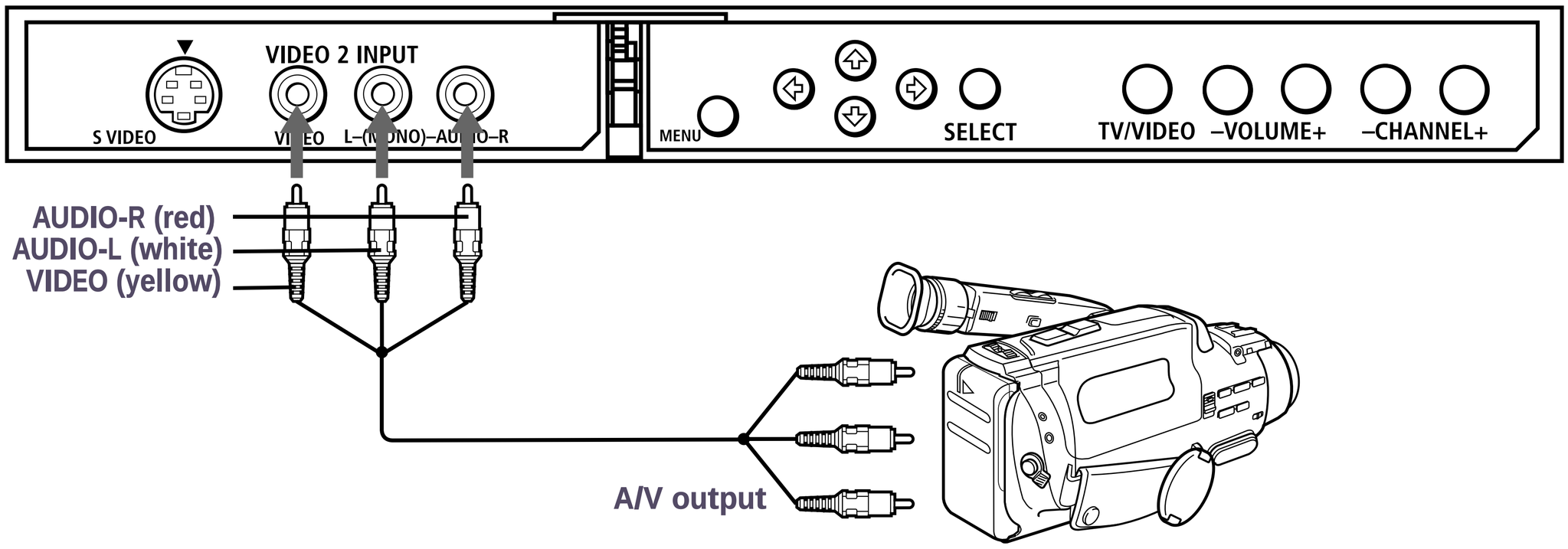
2 Using an audio cable, connect the Digital TV Set-top box's Audio OUT jacks to the TV's Audio IN jacks.



Connecting a Camcorder

For easy connection of the camcorder, the TV has front Audio and Video inputs (shown below). If you prefer, you can connect the camcorder to the TV's rear Audio and Video IN jacks.

1 Using A/V cables, connect the camcorder's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



If you have a mono camcorder, connect its audio output to the TV's AUDIO L jack.

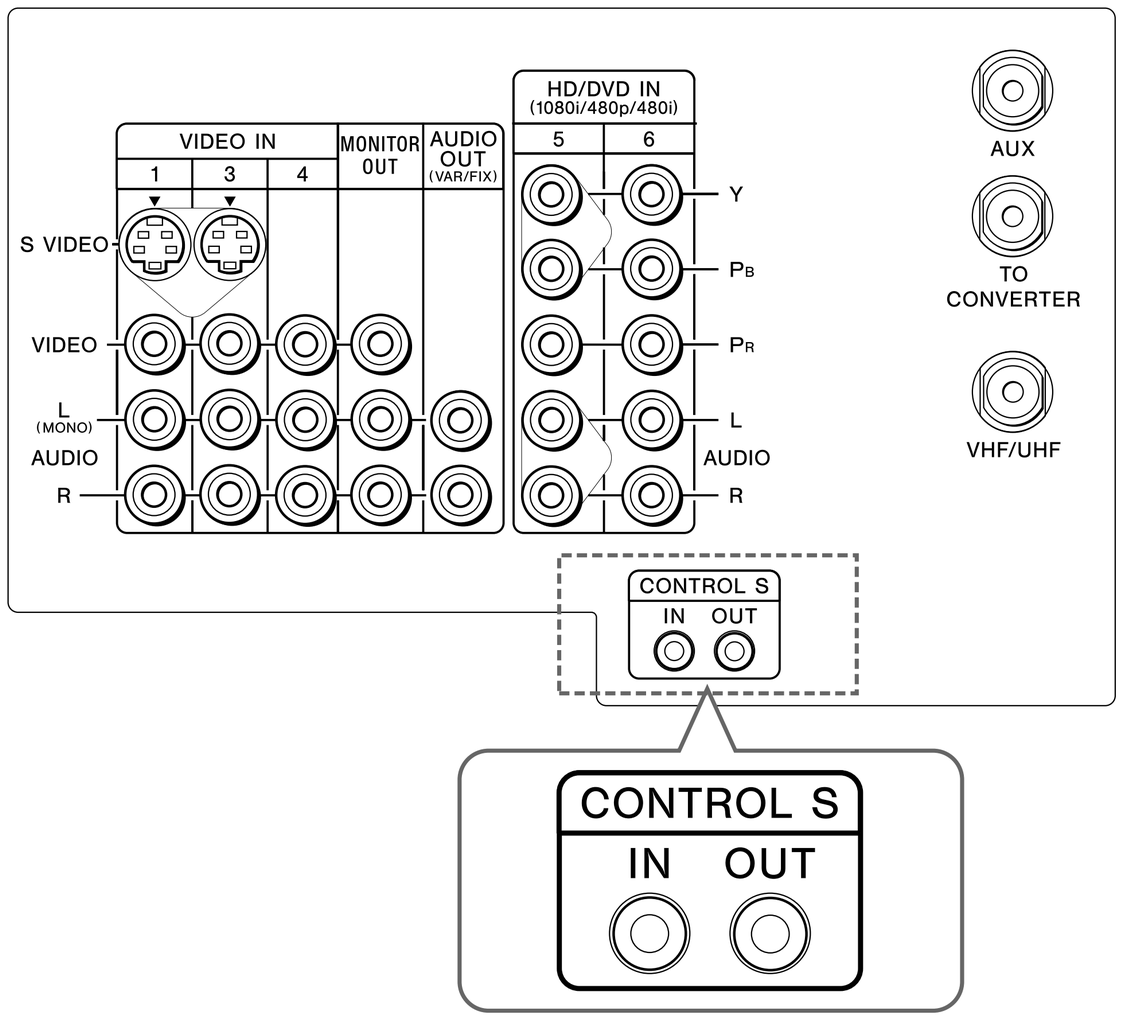
✍ If the camcorder you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.

To view the camera's output

❑ Use the TV/VIDEO button on the front panel of the TV (or on the remote control) to set the TV to the video input to which the camcorder is connected. (VIDEO 2 in the illustration above.)

Using the CONTROL S Feature

The CONTROL S feature allows you to control your TV, plus other Sony equipment (such as a DVD player or VCR) connected to the TV, using only the TV's remote control. In addition to allowing you to control multiple devices with one remote control, the CONTROL S feature allows you to always point your remote control at your TV, instead of having to point it at the other equipment, which might be hidden or out of direct line of sight.



Setting Up the TV Automatically

After you finish connecting your TV, you can run Auto Setup to set up your channels. The Auto Setup screen appears when you turn your TV on for the first time after installing it. If you do not want to set up the channels at this time, you can do it later by using the Auto Program feature in the Channel menu (see page 40 for information regarding Channel menu).

✍ The Auto Setup feature does not apply for installations that use a cable box for all channel selection.

Using Auto Setup

1. Turn on the TV.
2. Press the TV button on the remote control.
3. Using the main set of buttons on the remote control, press CH+ to run Auto Setup.
4. After Auto Setup has run, press CH– to exit.

Reset TV to Factory Settings

To reset your TV to the factory settings

1. Turn on the TV.
2. Hold down the RESET button on the remote control.
3. Press and release the POWER button on the TV. (The TV will turn itself off, then back on.)
4. Release the RESET button.

Using the Features

Overview

This chapter describes how to use features of your TV.

Topic	*Page*
Using Favorite Channels	30
Using Twin View	31
Using the Freeze Function	34

Using Favorite Channels

The Favorite Channel feature lets you select programs from a list of favorite channels that you previously specified.

To display a list of your favorite channels:

1. If you have not already done so, create a list of favorite channels. (For information on setting up Favorite Channels see “Selecting Channel Options” on page 40.)
2. Press the FAVORITES button on the remote control.

3. Move the joystick ↑ or ↓ to highlight the channel you want to watch. The program on that channel appears in the preview window.
4. Press the FAVORITES button on the remote control to select the channel.

Using Twin View

Twin view lets you see two pictures — from an antenna, a VCR, a DVD, etc, — on the screen at the same time. (You can only hear the sound associated with one of the pictures however. You choose which picture's sound is selected.) You can change the relative size of each of the pictures.

Displaying Twin Pictures

To display twin pictures

1 Press the ◑ button. (A second picture-window appears.)

2 To cancel twin pictures

- ❑ Press the ◑ button
  or
- ❑ Press the ⊙ button.

Activating the Picture

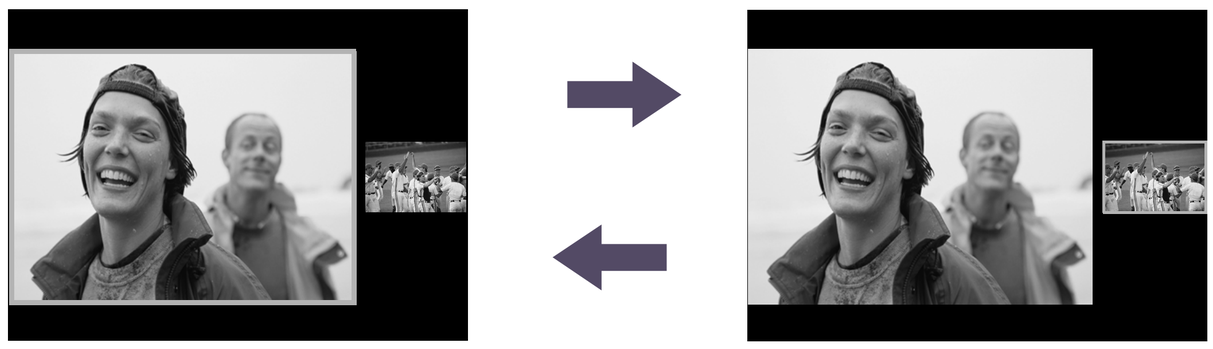
With Twin View, the picture highlighted with a blue frame is active. In the active picture, you can:

- Change channels
- Adjust the volume.
- Switch the input sources (to go from UHF/VHF to CATV cable, for example, press TV/VIDEO on the remote control).
- Change the picture size by pressing ⇧/⇩ on the joystick.

✍ Normally the TV memorizes the last-used sizes; when Twin VIew is turned off, then back on, the last-used sizes are displayed. If you are using the enhanced 16:9 picture, however, the aspect ratio changes to 4:3 in Twin View, and the picture is reformatted to that ratio.

To activate the right picture

- Move the joystick to the right (without pressing down on it).



To activate the left picture

- Move the joystick to the left (without pressing down on it).

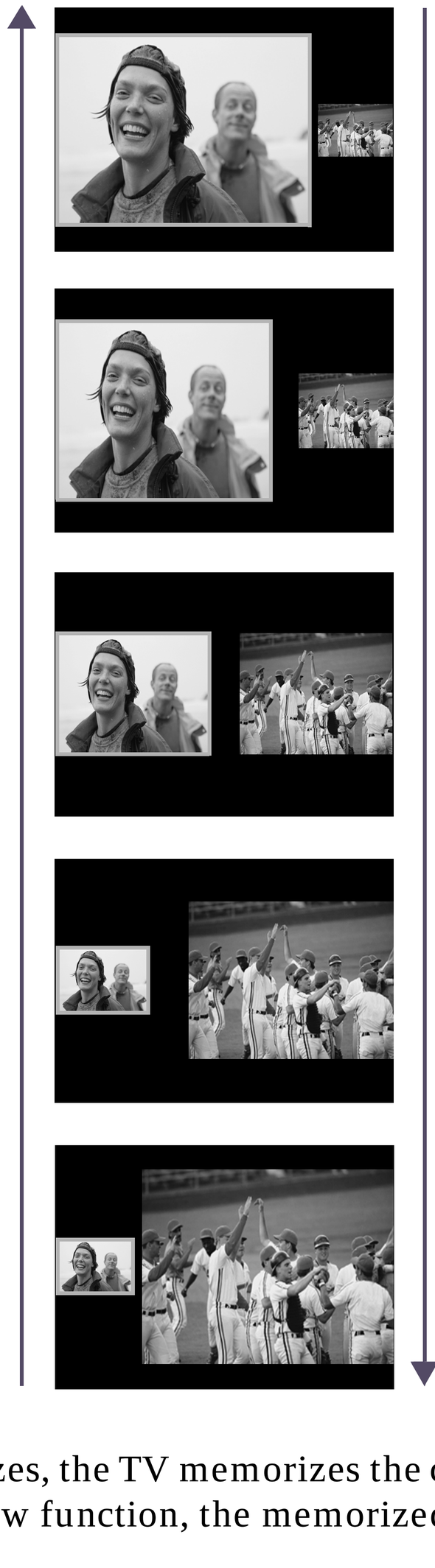
Factors affecting Twin View include:

- Equipment connected to the AUX and HD/DVD IN (numbers 5 and 6) inputs cannot be displayed in the right Twin View picture.

Changing the Picture Size

The zoom feature lets you vary the relative size of the left and right pictures.

1. Activate the picture whose size you want to change.
2. Press ↑ on the joystick to enlarge the picture.
3. Press ↓ on the joystick to make the picture smaller.



When you adjust the twin screen sizes, the TV memorizes the change. The next time you use the Twin View function, the memorized sizes appear.

Using the Freeze Function

The FREEZE button allows you to temporarily capture a program's picture. You can use this feature to write down information such as phone numbers, recipes, etc.

The FREEZE feature works only in normal view; if you are in TWIN VIEW, it will not work.

To use the FREEZE function

1. When the program information you want to capture is displayed, press the FREEZE button, on the remote control.
2. The TV switches to Twin View mode and displays the "frozen" picture on the right, while the current program continues on the left.

3. To cancel and return to normal viewing, press the FREEZE button.

Using the Menus

Overview

Opening and choosing a menu:

1. Press the MENU button to display the Menu screen.
2. Move the joystick to the desired menu icon and press ⊕ to select it.
3. Use the joystick to scroll through the features.
4. See the specific menu page for instructions on moving through the menu.

The Menu gives you access to the following features:

Menu Icon	Description	Page
	VIDEO allows you to make adjustments to your picture settings. It also allows you to customize the Picture Mode based on the type of program you are viewing.	36
	AUDIO offers enhanced audio options such as listening to second audio programming (SAP), or customizing the effect of the sound on your TV.	38
	CHANNEL allows you to set up a Favorite Channel list, run the Auto Program function, and more.	40
	PARENT lets you control the viewing of programs based on their ratings.	42
	TIMER lets you set the clock on your TV and allows you to program your TV for scheduled viewing using the Timers.	46
	SETUP provides several options for setting up your channels, labeling your video inputs, and selecting the language of the on-screen menus.	47

To end a menu session:

Press MENU again.

To end one menu session and move to another:

Move the joystick upward to return to the menu icons.
Move the joystick to choose the next menu icon and press ⊕ to select it.

Using the Video Menu

To select the Video Menu

1. Press MENU.
2. Move the joystick to the Video icon and press .
3. Use the joystick to scroll through the features.
4. Press to select a feature. That feature's adjustment appears.
5. Use the joystick to make the desired adjustments.
6. Press to select/set.
7. Press MENU to exit the menu screen.

To restore the factory default settings for Picture, Brightness, Color, Hue, and Sharpness, Color Temp and VM.

❑ Press RESET on the remote control when in the Video menu.

Selecting Video Options

To change from one Video Mode to another, use the PICTURE MODE button on the remote control.

The Video Menu includes the following options.

Option	Description	
Mode *Customized picture viewing*	Vivid	Select for enhanced picture contrast and sharpness.
	Standard	Recommended for normal viewing conditions.
	Movie	Select for soft, film like, picture.
	Pro	Select for professional monitor like appearance.
	✎ You can alter the Video Menu settings (Picture, Brightness, Color, etc.) for each Mode.	
Picture	Adjust to increase picture contrast and deepen the color or decrease picture contrast and soften the color.	
Brightness	Adjust to brighten or darken the picture.	
Color	Adjust to increase or decrease color intensity.	
Hue	Adjust to increase or decrease the green tones.	
Sharpness	Adjust to sharpen or soften the picture.	

Option	Description	
Color Temp *White intensity adjustment*	Choose from three color temperatures:	
	Cool	Select to give the white colors a blue tint.
	Neutral	Select to give the white colors a neutral tint.
	Warm	Select to give the white colors a red tint (NTSC-Standard).
VM *Velocity Modulation*	Sharpens picture definition to give every object a sharp, clean edge. Select from High, Medium, Low, Off.	
DRC Mode *Digital Reality Creation-Multi Function*	Creates a high-resolution picture with 4x density, for high quality sources (i.e., DVD player, Satellite receiver). Select from Interlaced, Progressive, or CineMotion.	
	Interlaced	Recommended for moving pictures.
	Progressive	Recommended for still images and text.
	CineMotion	Provides an optimized display by automatically detecting film content and applying a reverse 3/2 pulldown process. Moving pictures will appear clearer and more natural-looking.

Using the Audio Menu

To select the Audio Menu

1. Press MENU.
2. Move the joystick to the Audio icon and press ⊕.
3. Use the joystick to scroll through the options.
4. Press ⊕ to select an option. That option's settings appear.
5. Use the joystick to scroll through the settings.
6. Press ⊕ to select the desired setting.
7. Press MENU to exit the menu screen.

To restore the factory default settings for Treble, Bass, and Balance

❑ Press RESET on the remote control when in the Audio menu.

Selecting Audio Options

The Audio Menu includes the following options:

Option	Description	
Treble	Adjust to increase or decrease higher-pitched sounds.	
Bass	Adjust to increase or decrease lower-pitched sounds.	
Balance	Adjust to emphasize left or right speaker balance.	
Steady Sound	ON	Select to stabilize the volume.
	OFF	Select to turn off Steady Sound.
Effect	TruSurround	Select for surround sound (for stereo programs only).
	Simulated	Adds a surround-like effect to mono programs.
	OFF	Normal stereo or mono reception.

Option	Description	
MTS *Enjoy stereo, bilingual and mono programs*	Stereo	Select for stereo reception when viewing a program broadcast in stereo.
	Auto-SAP	Select to automatically switch the TV to second audio programs when a signal is received. (If no SAP signal is present, the TV remains in Stereo mode.)
	Mono	Select for mono reception. (Use to reduce noise during weak stereo broadcasts.)
Speaker	ON	Select to turn on the TV speakers.
	OFF	Select to turn off the TV speakers and listen to the TV's sound only through your external audio system speakers.
Audio Out *Easy control of volume adjustments*	This option can be set only when the Speaker option is set to OFF.	
	Variable	Sound output varies according to the TV settings. Useful when you want to use the TV's remote control to adjust the output through a separate audio system.
	Fixed	Sound output is held at a fixed level. Use your audio receiver's remote control to adjust the volume.

Using the Channel Menu

To select the Channel Menu

1. Press MENU.
2. Move the joystick to the Channel icon and press ⊕.
3. Use the joystick to scroll through the features.
4. Press ⊕ to select a feature. That feature's options appear.
5. Use the joystick to scroll through the options.
6. Press ⊕ to select the desired option.
7. Press MENU to exit the menu screen.

Selecting Channel Options

The Channel Menu includes the following options:

Option	Description	
Favorite Channel	1 Press ⊕ to select a favorite channel number. 2 Use the joystick to scroll through the channels until you find the channel you want to add to your favorites. 3 Press ⊕ to select it.	
Cable	ON	Select if you are receiving cable channels with a CATV cable.
	OFF	Select if you are using an antenna.
	✍ You should run Auto Program after changing the cable setting.	
Channel Fix *Useful when you have a cable box or satellite receiver connected*	2-6	"Fix" your TV's channel setting to 3 or 4 and use the cable box, VCR or satellite receiver to change channels. Select one of these settings if you have connected the device to the VHF/UHF jack.
	AUX 2-6	Same as 2-6, except you select one of these settings if you have connected the device to the AUX jack (see page 8).
	VIDEO 1	Use this setting if you have connected the device to the Audio and Video IN jacks.
Auto Program	Automatically programs the TV for all receivable channels from both VHF/UHF and AUX inputs.	

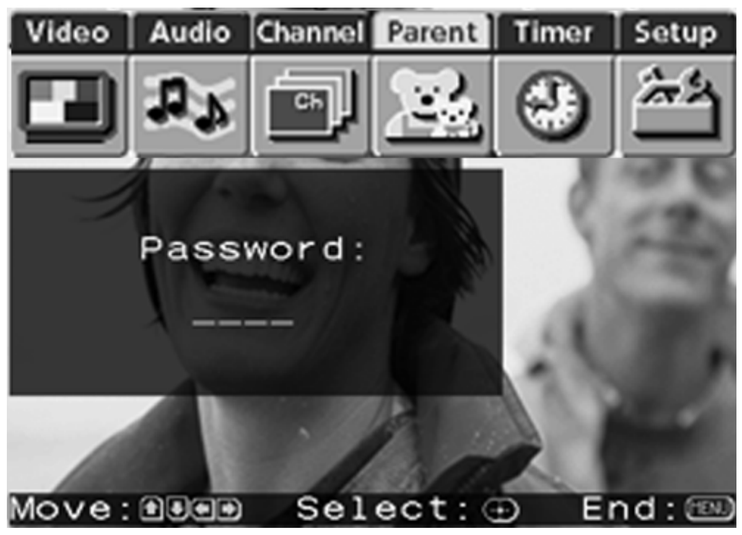
Option	Description
Channel Skip/Add	Removes and adds viewable channels. 1 Use the joystick to scroll through the channels until you find the channel you want to skip / add. 2 Press ⊙ to select it. 3 Press the joystick (⇧ / ⇩) to toggle between “Add” and “Skip.” 4 Press ⊙ to select.
Channel Label	Label up to 20 channels with their station call letters.

Using the Parent Menu

The Parent menu allows you to set up the TV to block programs according to their content and rating levels. These ratings are assigned by a federal rating board. Not all programs are rated. Using the Parental Lock blocks programs with a specific rating, but it does not block an entire channel.

To select the Parent Menu

1. Press MENU.
2. Move the joystick to the Parent icon and press ⊕.
3. Use the 0-9 buttons on the remote control to enter your four-digit password.
4. Confirm your password by entering it again. (The Parent menu options appear.)



5. Use the joystick to scroll through the settings.
6. Press ⊕ to select the desired option.
7. Press MENU to exit the menu screen.

✍ You need your password for any future access into the Parent menu. If you lose your password, see “Lost password” on page 56.

Using the Parent Menu

If you are not familiar with the Parental Guideline rating system, you should select Child, Youth, or Young Adult to help simplify the rating selection. To set more restrictive ratings, select Custom.

For descriptions of Child, Youth, and Young Adult ratings, see page 44.

The Parent menu includes the following options.

Option	Description	
Parental Lock *Turn ratings on/ off and select a rating system*	OFF	Parental lock is off. No programs are blocked from viewing.
	Child	Maximum ratings permitted are: ❏ US: TV-Y, TV-G, G ❏ Canada: TV-Y, C, G
	Youth	Maximum ratings permitted are: ❏ US: TV-PG, PG ❏ Canada: TV-PG, PG, 8 ans+
	Young Adult	Maximum ratings permitted are: ❏ US: TV-14, PG-13 ❏ Canada: TV-14, 14+, 13 ans+
	Custom	Select to set ratings manually. ❏ US: See page 44 for details. ❏ Canada: See page 45 for details.
Change Password	For changing your password.	

US Models: Selecting Custom Rating Options

For US models, the Custom Rating Menu includes the following options. (For Canadian models, see page 45.)

Option	Description	
Movie Rating	G	All children and General Audience.
	PG	Parental Guidance suggested.
	PG-13	Parental Guidance for children under 13.
	R	Restricted viewing, parental guidance is suggested for children under 17.
	NC-17 and X	No one 17 and under allowed.
TV Rating *Block programs by their rating, content or both*	Age-Based Options	
	TV-Y	All children.
	TV-Y7	Directed to older children.
	TV-G	General Audience.
	TV-PG	Parental Guidance suggested.
	TV-14	Parents Strongly cautioned.
	TV-MA	Mature Audience only.
	Content-Based Options	
	FV	Fantasy Violence.
	D	Suggestive Dialogue.
	L	Strong Language.
	S	Sexual situations.
	V	Violence.
Unrated *Block programs or movies that are broadcast without a rating*	Block	Blocks all programs and movies that are broadcast without a rating.
	Allow	Allows programs and movies that are broadcast without a rating.

The content ratings will increase depending on the level of the age-based rating. For example, a program with a TV-PG V (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain more intense violence.

To ensure maximum blocking capability, the age-based ratings should be blocked.

If you block unrated TV programs, be aware that the following types of programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs and weather.

Canadian Models: Selecting Custom Rating Options

For Canadian models, the Custom Rating Menu includes the following options. (For US models, see page 44.)

Option	Description	
English Rating	C	All children.
	C8+	Children 8 years and older.
	G	General programming.
	PG	Parental Guidance.
	14+	Viewers 14 and older.
	18+	Adult programming.
French Rating	G	General programming.
	8 ans+	Not recommended for young children.
	13 ans+	Not recommended for ages under 13.
	16 ans+	Not recommended for ages under 16.
	18 ans+	Programming restricted to adults.
USA Rating	See “US Models” on page 44 for details.	

Viewing Blocked Programs

You can view a blocked program by entering the password. Press the ENTER button when tuned to a blocked program. This temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the TV. When the TV is turned on again, your Parental Controls settings are reactivated.

Using the Timer Menu

To select the Timer menu

1. Press MENU.
2. Use the joystick to move to the Timer icon and press ⊕.

To set the Current Time

1. Use the joystick to select "Current Time", then press ⊕.
2. If it is currently Daylight Savings Time, be sure to set that mode to "ON". (Daylight Savings Time starts in the Spring and ends in the Fall.)
3. Use the joystick to enter the correct time, then press ⊕.
4. Press MENU to exit the menu screen.

To set the Timer

Before setting the timer, be sure to set your TV's clock to the current time (and, if appropriate, Daylight Savings Mode). To check the TV's time setting, press the DISPLAY button on the remote control.

1. Move the joystick to "Timer 1" or "Timer 2", then press ⊕.
2. Use the joystick to enter your date, time and channel preferences, then press ⊕ to select each one.
3. Press MENU to exit the menu screen.

To reset the Clock or Timers

❑ Press RESET on the remote control after selecting that option in the Timer menu. This resets to the factory defaults.

Selecting Timer Options

The Timer Menu includes the following options:

Option	*Description*	
Timer 1 Timer 2	Program	Select to set the Timer by day, time, duration, and channel.
	OFF	Select to turn off the Timer. (Your previous settings will be saved.)
Current Time	Set the current time.	
Daylight Savings	ON	Select in the spring to turn on this mode during Daylight Saving Time.
	OFF	Select in the fall to turn of this mode at the end of Daylight Saving Time.

Using the Setup Menu

To select the Setup Menu

1. Press MENU.
2. Use the joystick to move to the Setup icon and press ⊕.
3. Use the joystick to scroll through the features.
4. Press ⊕ to select a feature. (That feature's options appear.)
5. Use the joystick to scroll through the options.
6. Press ⊕ to select the desired option.
7. Press MENU to exit the menu screen.

Selecting Setup Options

The Setup Menu includes the following options:

Option	Description
Caption Vision	Allows you to select from three closed-caption modes (for programs that are broadcast with closed caption).
CC1, CC2, CC3, CC4	Displays a printed version of the dialog or sound effects of a program. (Should be set to CC1 for most programs.)
TEXT1, TEXT2, TEXT3, TEXT4	Displays network / station information presented using either half or the whole screen (if available). For closed captioning, set to CC1.
XDS (Extended Data Service)	Displays a network name, program name, program length, and time of the show (if the broadcaster offers this service).
OFF	Turns off Caption Vision.

(Continued on the next page)

(Continued from the previous page)

Option	Description
Video Label	Allows you to label the audio / video components you connected to the TV so you can identify them when using the TV/VIDEO button. When in the Setup menu's Video Label feature, use the joystick to highlight an input to label, then press ⊕ to select it. Use the joystick to scroll through the labels. Press ⊕ to select the component you connected to each of the input jacks on the back of your TV. Select "Skip" if you do not have a component connected to a particular set of input jacks.
VIDEO 1/2/3/4	VHS, 8mm, Beta, LD, Game, SAT, DVD, Web, Receiver, DTV, Skip
VIDEO 5/6	HD, DVD, DTV, Skip
	✍ If you select "Skip", your TV skips this connection when you press the TV/VIDEO button.
Tilt Correction	Allows you to correct any tilt of the picture.
Language	Select to display all on-screen menus in your language of choice.
16:9 Enhanced	Provides enhanced picture resolution for widescreen sources, such as selected DVD titles (only available when the TV is in VIDEO mode). Press TV/VIDEO and select from one of the following options:
AUTO	To activate automatically when a 16:9 signal is received.
ON	To activate manually.
Demo	Runs a demonstration of on-screen menus.

💡 To use this feature with widescreen DVDs, set your DVD player to 16:9 aspect ratio.

✍ AUTO/ON will appear when TV is in video mode 1-6.
ON/OFF will appear when TV is in VIDEO mode 5-6 and the 480p signal occurs.

Other Information

Overview

This chapter includes the following topics:

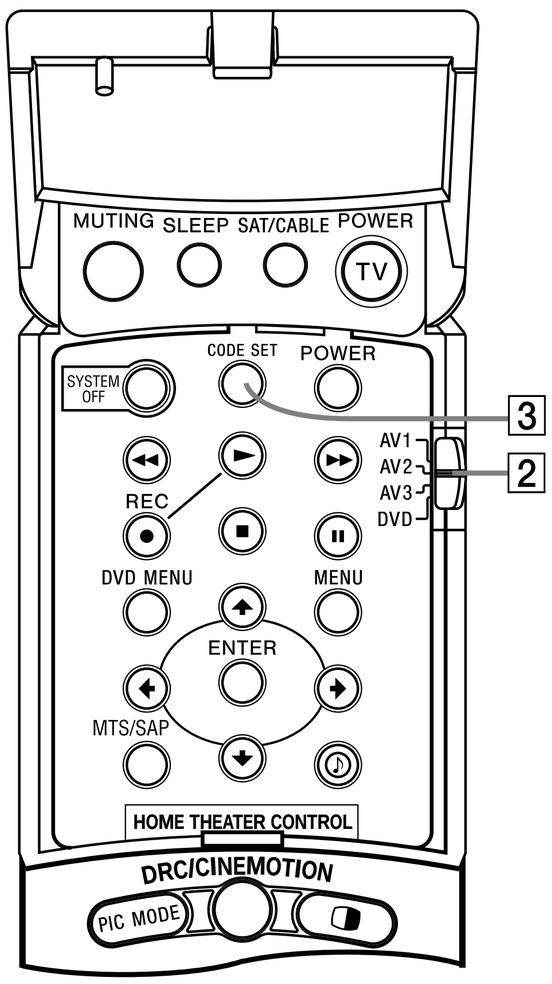
Topic	Page
Programming the Remote Control	50
Operating Other Equipment with Your TV Remote Control	53
Troubleshooting	55
Specifications	57
Index	59

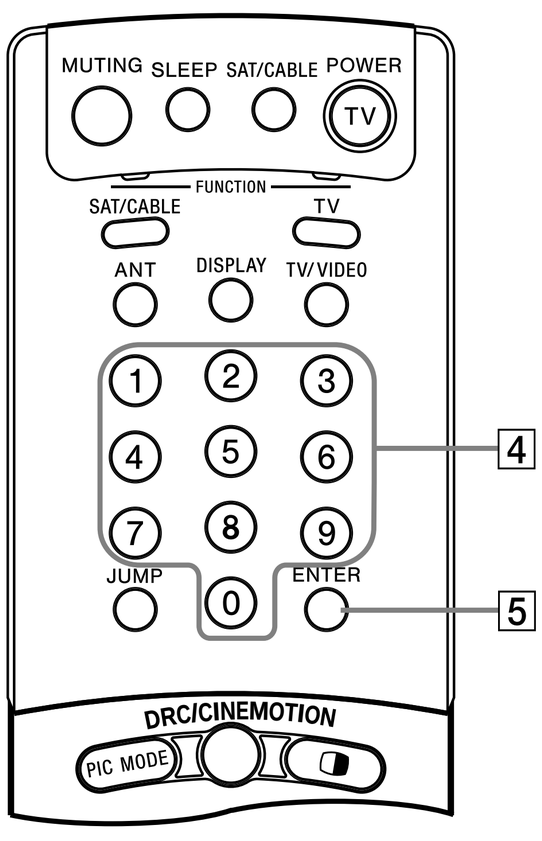
Programming the Remote Control

The remote control is preset to operate Sony brand video equipment.

Sony Equipment	*Switch Position on Remote Control*	*Programmable Code Number*
Beta, ED Beta VCRs	AV1	303
8 mm VCR	AV2	302
VHS VCR	AV3	301
DVD Player	DVD	751

If you have video equipment other than Sony brand that you want to control with the TV's remote control, use the following procedures to program the remote control.





> ✍ The equipment must have infrared (IR) remote capability in order to be used with the remote control.

1. Check the list of the "Manufacturer's Codes" listed on page 52, and find the three-digit code number for the manufacturer's code for your equipment. (If more than one code number is listed, start with the number listed first.)
2. Open the cover of the remote control and move the slide switch to the desired equipment type.
3. Press CODE SET and close the cover of the remote control.

> ✍ You must do step 4 within 10 seconds of step 3, or you must redo steps 2 and 3.

4. Enter the three-digit manufacturer's code number.
5. Press ENTER.
6. To check if the code number works, aim the TV's remote control at the equipment and press the green POWER button that corresponds with that equipment. If it responds, you are done. If not, try using another code listed for that manufacturer.

Tips

- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some cases, you may not be able to operate your equipment with the Sony remote control. In such cases, use the equipment's own remote control unit.
- Whenever you remove the batteries to replace them, the code numbers may revert to the factory setting and must be reset.

Manufacturer's Codes

VCRs

Manufacturer	*Code*
Sony	301
Admiral (M. Ward)	327
Aiwa	338, 344
Audio Dynamic	314, 337
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	322, 339, 340
Goldstar	332
Hitachi	306, 304, 305,338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337, 345, 346, 347
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi / MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Optimus	327
Orion	317
Panasonic	308, 309, 306, 307
Pentax	305, 304
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Laserdisc Players

Manufacturer	*Code*
Sony	701
Panasonic	704, 710
Pioneer	702

DVD Players

Manufacturer	*Code*
Sony	751
GE	755
Hitachi	758
JVC	756
Magnavox	757
Mitsubishi	761
Oritron	759
Panasonic	753
Philips	757
Pioneer	752
RCA / PROSCAN	755
Samsung	758
Toshiba	754
Zenith	760

Cable Boxes

Manufacturer	*Code*
Sony	230
Hamlin / Regal	222, 223, 224, 225, 226
Jerrold / G. I.	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

Satellite Receivers

Manufacturer	*Code*
Sony	801
Dish Network	810
Echostar	810
General Electric	802
Hitachi	805
Hughes	804
Mitsubishi	809
Panasonic	803
RCA / PROSCAN	802, 808
Toshiba	806, 807

Operating Other Equipment with Your TV Remote Control

Operating a VCR

Open the cover of the remote control and move the slide switch to the AV input you coded for the VCR.

To Do This ...	Press
Turn on / off	green POWER button
Change channels	CH +/-
Record	► and REC simultaneously.
Play	►
Stop	■
Fast forward	►►
Rewind the tape	◄◄
Pause	❚❚
Search the picture forward or backward	►► or ◄◄ during playback (release to resume normal playback)

Operating a DVD Player

Open the cover of the remote control and move the slide switch to the AV input you coded for the DVD player.

To Do This ...	Press
Turn on / off	green POWER button
Play	►
Stop	■
Pause	❚❚
Step through different tracks of an audio disc	►► to step forward or ◄◄ to step backward
Step through different chapters of a video disc	CH+ to step forward or CH- to step backward
Display the DVD menu	DVD MENU
Display the menu (Setup)	MENU

Operating a Cable Box

To Do This ...	Press
Turn on / off	SAT/CABLE (green POWER button)
Select cable box	SAT/CABLE (FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP

Operating a Satellite Receiver

To Do This ...	Press
Turn on / off	SAT/CABLE (green POWER button)
Select satellite receiver	SAT/CABLE (FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP
Display channel number	DISPLAY
Display DBS guide	GUIDE
Display DBS menu	MENU
Move highlight (cursor)	Joystick
Select item	⊕ button

Operating an MDP (Laserdisc Player)

Open the cover of the remote control and move the slide switch to the AV input you coded for the MDP.

To Do This ...	Press
Turn on / off	green POWER button
Play	►
Stop	■
Pause	❚❚
Search the picture forward or backward	►► or ◄◄ during playback (release to resume normal playback)
Search a chapter forward or backward	CH +/-

Troubleshooting

Problem	Possible Remedies
No picture (screen not lit), no sound	❑ If your TV does not turn on, and a red light keeps flashing, your TV may need service. Call your local Sony Service Center. ❑ Make sure the power cord is plugged in. ❑ Push the power button on the front of the TV. ❑ Check to see if the TV / VIDEO setting is correct: when watching TV, set to TV; when watching connected equipment, set to VIDEO 1, 2, 3, 4, 5 or 6, as appropriate. ❑ Try another channel; it could be station trouble.
Remote control does not operate	❑ Batteries could be weak. Check the batteries and replace as necessary. ❑ Press TV (FUNCTION) when operating your TV. ❑ Make sure the TV's power cord is connected securely to the wall outlet. ❑ Locate the TV at least 3-4 feet away from fluorescent lights. ❑ Check the orientation of the batteries.
Dark, poor or no picture (screen lit), good sound	❑ Adjust the Picture setting in the Video menu (see page 36). ❑ Adjust the Brightness setting in the Video menu (see page 36). ❑ Check antenna / cable connections.
Good picture, no sound	❑ Press MUTING so that "MUTING" disappears from the screen (see page 4). ❑ Make sure Speaker is set to ON in the Audio menu (see page 38).
Cannot receive upper channels (UHF) when using an antenna	❑ Change Cable to OFF (see page 40). ❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in memory (see page 40).
No color	❑ Adjust the Color settings in the Video menu (see page 36).
Only snow and noise appear on the screen	❑ Check the antenna / cable connections. ❑ Try another channel (it could be station trouble). ❑ Press ANT to change the input mode (see page 40).
Dotted lines or stripes	❑ Adjust the antenna. ❑ Move the TV away from noise sources such as cars, neon signs, or hair-dryers.
TV is fixed to one channel	❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 40). ❑ Check your Channel Fix settings (see page 40).
Double images or ghosts	❑ Use a highly directional outdoor antenna or a cable (if the problem is caused by reflections from nearby mountains or tall buildings).
Cannot operate menu	❑ If the item you want to choose appears in gray, you cannot select it.
Cannot receive any channels when using cable TV	❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 40). ❑ Check your cable settings. ❑ Make sure Cable is set to ON in the Channel menu (see page 40).

Problem	*Possible Remedies*
Cannot gain enough volume when using a cable box	❏ Increase the volume of the cable box using the cable box's remote control. Then press TV (FUNCTION) and adjust the TV's volume.
Cannot receive channels	❏ Use Auto Program in the Channel menu to add receivable TV channels that are not presently in TV memory (see page 40).
Unable to select a channel	❏ Use Auto Program in the Channel menu to add receivable TV channels that are not presently in TV memory (see page 40).
Lost password	❏ In the password screen (see page 42), enter the following master password: 4357. The master password clears your previous password; it cannot be used to temporarily unblock channels.
Cannot change channels with the remote control	❏ Be sure you have not inadvertently switched your TV from channel 3 or 4 setting if you are using another device to change channels. ❏ If you are using another device to control channels, be sure the "function" button for that device has been pressed.
Cannot cycle through the other video equipment connected to the TV	❏ Be sure the Video Label feature has not been set to Skip (see page 48).
There is a black box on the screen	❏ You have selected a text option in the Setup menu and no text is available. (See page 47 to reset Setup selections.) To turn this feature off, select OFF in the Caption Vision option. If you were trying to get closed captioning, select CC1 instead of Text 1-4.
There is no twin picture or it is just static	❏ Be sure your twin picture is set to a video source / channel that has a program airing. ❏ You may be tuned to a video input with nothing connected to it. Try cycling through your video inputs using the TV / VIDEO button. ❏ Twin View is not set to receive a signal from the AUX input. If you have connected a VCR or satellite receiver to the AUX input on the TV, it will not show in the second picture.
I get the same program in the window picture as in the main picture	❏ Both may be set to the same channel. Try changing channels in either the main picture or the window picture. ❏ You may be running all your channels through a cable box. The cable box will only unscramble one signal at a time, so you cannot use the Twin View feature. If possible, run a direct cable to your TV's VHF / UHF input. (This will only work if your cable system provides an unscrambled signal.)
I cannot get anything but TV channels in my second picture	❏ Be sure the video label has not been set to skip your video inputs. See the Setup menu on page 48.

If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Customer Information Services Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (Canadian residents only).

Specifications

All Models (General)		
Picture Tube	FD Trinitron® tube	
Antenna	75 ohm external terminal for VHF/UHF	
Television System	NTSC, American TV Standard	
Channel Coverage		
VHF	2-13	
UHF	14-69	
CATV	1-125	
Power Requirements	120V, 60 Hz	
Number of Inputs/Outputs		
Video (IN)	4	1 Vp-p, 75 ohms unbalanced, sync negative
S Video (IN)	3	Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p (Burst signal), 75 ohms
Audio (IN)	6	500 mVrms (100% modulation) Impedance: 47 kilohm
Audio (OUT)	1	More than 408 mVrms at the maximum volume setting (Variable) More than 408 mVrms (Fixed) Impedance (output): 2 kilohms
Monitor Out	1	1 Vp-p, 75 ohms unbalanced, sync negative
CONTROL S (IN/OUT)	1	
Component Video Input	2 (Y, P_B, P_R)	Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative; P_B: 0.7 Vp-p, 75 ohms P_R: 0.7 Vp-p, 75 ohms

KV-32XBR450

Supplied Accessories	
Remote Control	RM-Y184
AA (R6) Batteries	2 supplied for remote control
Optional Accessories	
AV Cable	VMC-810/820/830 HG
Audio Cable	RKC-515HG
S-LINK Cable	RK-G69HG
Component Video Cable	VMC-10/30 HG
TV Stand	SU-32XBR45 (also SU-32HS2 in Canada)
Visible Screen Size	32 in (812.8 mm) picture measured diagonally
Actual CRT Size	34 in (863.4 mm) picture measured diagonally
Speaker Output	15W x 2
Dimensions (W x H x D)	898.0 x 678.0 x 579.5 mm (35 3/8 x 26 3/4 x 27 7/8 in)
Mass	84 kg (185 lbs)
Power Consumption	
In Use	245 W
In Standby	2 W

KV-36XBR450

Supplied Accessories	
Remote Control	RM-Y184
AA (R6) Batteries	2 supplied for remote control
Optional Accessories	
AV Cable	VMC-810/820/830 HG
Audio Cable	RKC-515HG
Component Video Cable	VMC-10/30 HG
TV Stand	SU-36XBR45 (also SU-36HS2 in Canada)
Visible Screen Size	36 in (914 mm) picture measured diagonally
Actual CRT Size	38 in (965.2 mm) picture measured diagonally
Speaker Output	15W x 2
Dimensions (W x H x D)	994 x 754.5 x 622 mm (39 1/4 x 29 3/4 x 24 1/2 in)
Mass	108 kg (238 lbs)
Power Consumption	
In Use	245 W
In Standby	2 W

Design and specifications are subject to change without notice.

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Printed in U.S.A.

SONY

4-082-507-21

FD Trinitron WEGA™

Operating Instructions

KV-32HS20 KV-36HS20 KV-36HS20H

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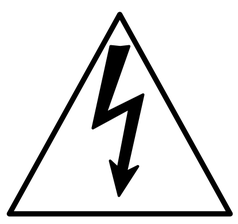
WARNING

To reduce the risk of fire or shock hazard, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

CAUTION

When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. Continuously watching the same program can cause the imprint of station logos onto the TV screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

Note on Cleaning the TV

Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.

Note to CATV System Installer

This reminder is provided to call the CATV system installer’s attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Use of this television receiver for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster / cable company and / or program owner.

NOTIFICATION

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❑ Reorient or relocate the receiving antennas.
- ❑ Increase the separation between the equipment and receiver.
- ❑ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ❑ Consult the dealer or an experienced radio / TV technician for help.

  You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Safety

- ❑ Operate the TV only on 120 V AC.
- ❑ The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- ❑ If any liquid or solid object should fall inside the cabinet, unplug the TV immediately and have it checked by qualified service personnel before operating it further.

Installing

- ❑ To prevent internal heat buildup, do not block the ventilation openings.
- ❑ Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- ❑ The AC power cord is attached to the rear of the TV with hooks. Do not attempt to remove the cord from these hooks. Doing so could cause damage to the TV.

As an ENERGY STAR® Partner, Sony has determined that this product or product models meets the ENERGY STAR® guidelines for energy efficiency.

ENERGY STAR® is a U.S. registered mark.

(●)® SRS Sound Retrieval System

The (●) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending. The word “SRS” and the SRS symbol (●) are registered trademarks of SRS Labs, Inc.

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FD Trinitron and the Wega logo are trademarks of Sony Corporation.

Owner’s Record

The model and serial numbers are provided on the front of this instruction manual and at the rear of the TV. Refer to them whenever you call upon your Sony dealer regarding this product.

Important Safeguards

For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set or described in the operating instructions or service manual.

WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use and servicing of the set.

Use

Power Sources

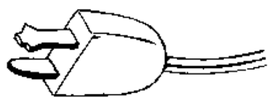
This set should be operated only from the type of power source indicated on the serial / model plate. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.

Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding).Follow the instructions below:

For the set with a polarized AC power cord plug

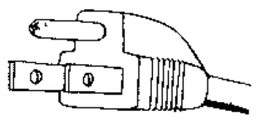
This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.



Alternate Warning

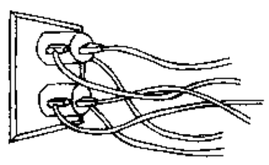
For the set with a three-wire grounding type AC plug

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.

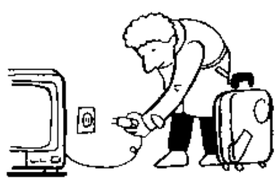


Overloading

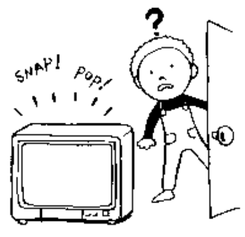
Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.



Always turn the set off when it is not being used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.

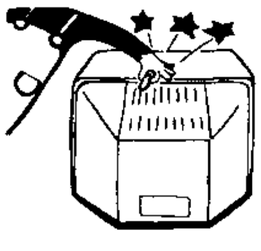


If a snapping or popping sound from a TV set is continuous or frequent while the TV is operating, unplug the TV and consult your dealer or service technician. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.



Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



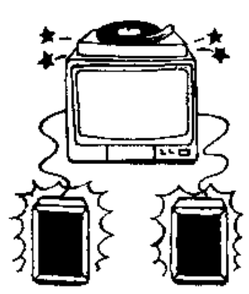
Cleaning

Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.

Installation

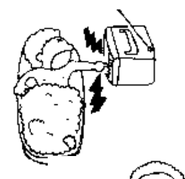
Attachments

Do not use attachments not recommended by the manufacturer, as they may cause hazards.



Water and Moisture

Do not use power-line operated sets near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.



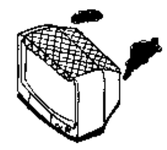
Accessories

Do not place the set on an unstable cart, stand, table or shelf. The set may fall, causing serious injury to a child or an adult and serious damage to the set. Use only a cart or stand recommended by Sony for the specific model of TV. No part of the TV set should overhang any edge of the TV cart or stand; any overhanging edge is a safety hazard. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

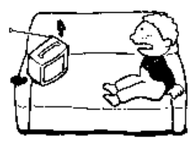
Ventilation

The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.

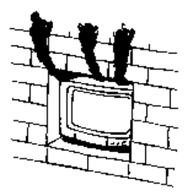
- ❑ Never cover the slots and openings with a cloth or other materials.



- ❑ Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.



- ❑ Never place the set in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.



- ❑ Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.

Power-Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.

Antennas

Outdoor Antenna Grounding

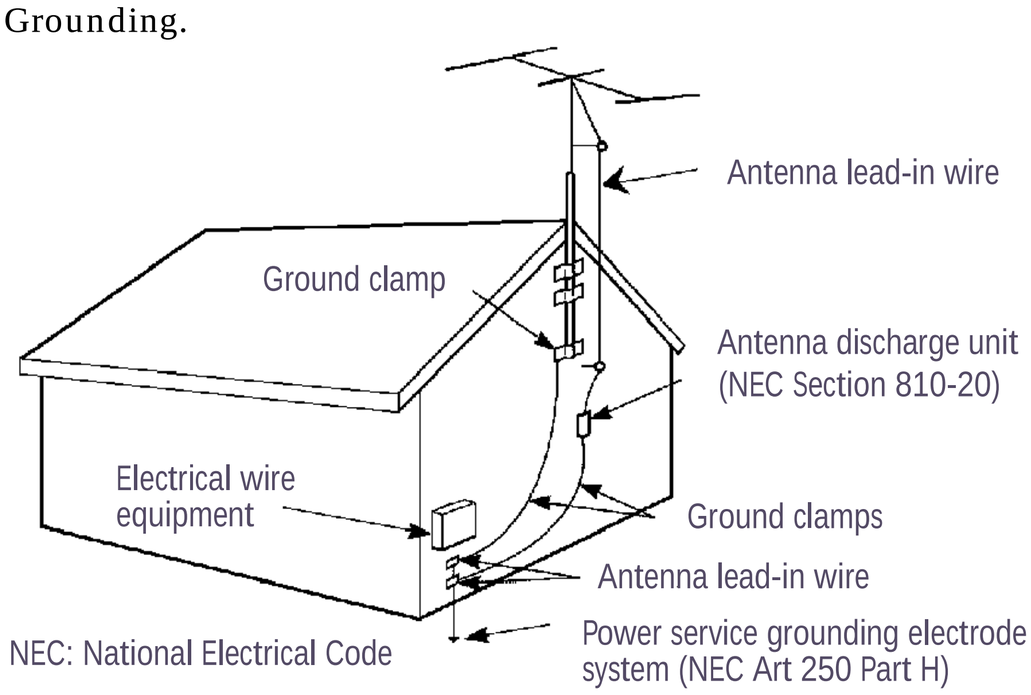
If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna Grounding According to the NEC

Refer to section 54-300 of Canadian Electrical Code for Antenna Grounding.



Lightning

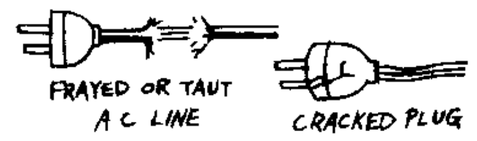
For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

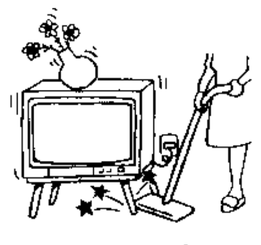
Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- ❑ When the power cord or plug is damaged or frayed.

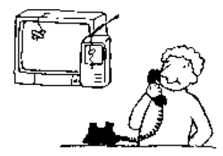


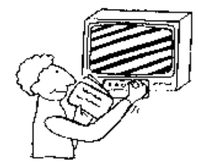
- ❑ If liquid has been spilled into the set.
- ❑ If the set has been exposed to rain or water.



- ❑ If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.

- ❑ If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.





- ❑ When the set exhibits a distinct change in performance, it indicates a need for service.

Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Replacement Parts

When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.

Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify. When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.

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Introducing the FD Trinitron Wega

Overview

This chapter defines the contents of your Wega TV and provides an overview of how to set up and use basic features.

Topic	Page
Presenting the FD Trinitron Wega	2
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Presenting the FD Trinitron Wega

The FD Trinitron Wega (pronounced VAY-GAH) is characterized by outstanding contrast, uncompromising accuracy, and corner-to-corner detail.

You'll recognize the superiority of Wega technology almost immediately. The first thing you'll notice is minimal glare from the flat picture tube. This flat-screen technology improves picture detail without distortion, unlike conventional curved screens. The FD Trinitron delivers outstanding image detail not only at the screen center, but also at the corners — so you can enjoy a bright, clear picture from any location in a room.

Features

Some of the features that you will enjoy with your new TV include:

- **DRC Mode (Digital Reality Creation):** Unlike conventional line doublers, the DRC feature doubles vertical and horizontal lines, resulting in four times the density for quality sources such as DVD player, Satellite and Digital camcorder.
- **Twin View™:** Using Multi-Image Driver (MIDX), Twin View allows you to watch two programs side by side, with the ability to zoom in one picture. You can watch pictures from two different sources simultaneously.
- **16:9 Enhancement:** Vertical Compression technology that maximizes picture resolution on "anamorphic" or "enhanced for widescreen" sources, including selected DVDs.
- **Velocity Modulation:** Vertical line enhancement that sharpens picture definition.
- **Steady Sound:** Equalizes volume levels so there is consistent output between programs and commercials.
- **Parental Control:** V-Chip technology allows parents to block unsuitable programming for younger viewers.
- **Component Video Inputs:** Offers the best video quality for DVD (480p, 480i), and Digital Set-top box (HD1080i) connections.
- **S VIDEO Inputs:** Provides a high-quality video signal from connected equipment.
- **Favorite Channel Preview:** Preview up to eight favorite channels without leaving the current channel.

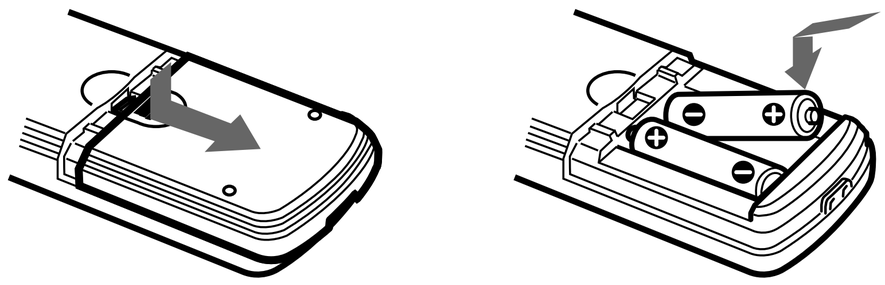
Package Contents

Your box contains your new Trinitron TV, a remote control and two AA batteries. No peripheral cables are included. If you intend to add additional equipment to your TV, please check the hookup instructions for your desired setup before you begin. You may need to purchase cables and / or splitters to complete the hookup properly.

Using the Remote Control

Inserting Batteries

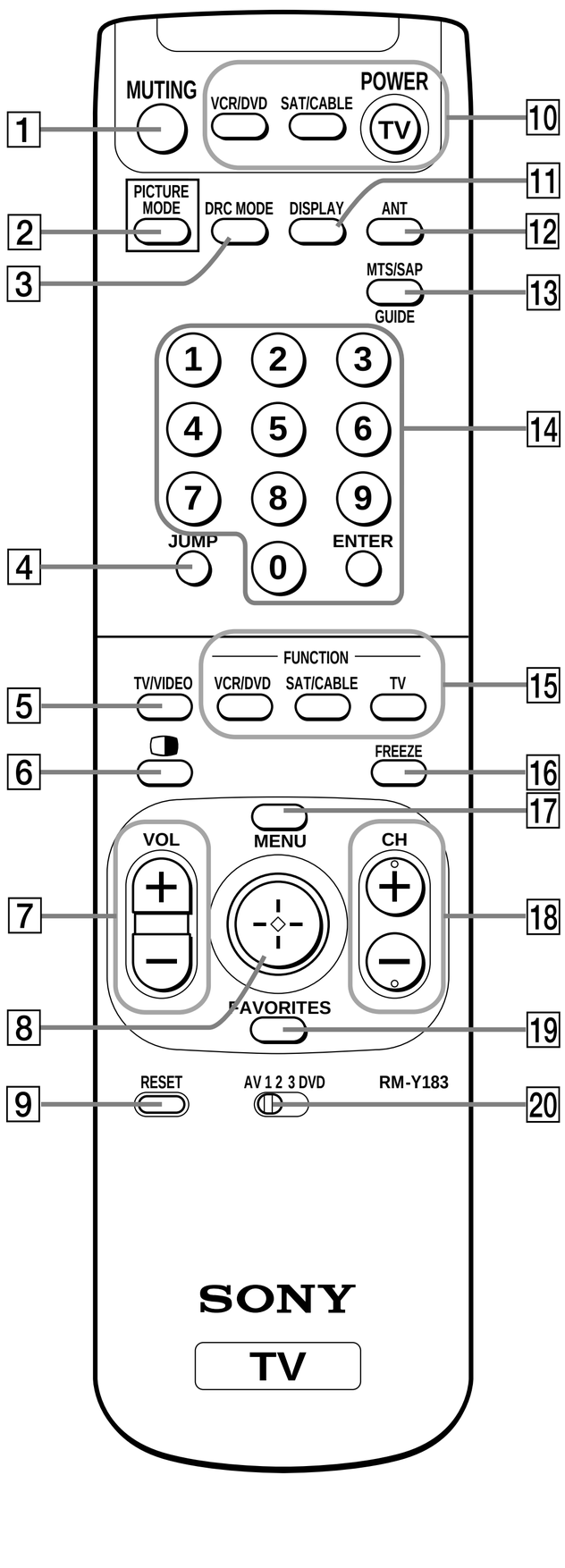
Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the battery compartment.



✍ Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.

Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater, or where the humidity is high.

Button Descriptions



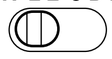
To scan rapidly through the channels, press and hold down the CH+ or CH- button.

The following table describes the buttons on the remote control that are for more advanced functions.

Main Power button must be turned ON to activate the Remote Control.

Outside Panel

	Button	Description
1	MUTING	Press to mute the sound. Press again or press VOL + to restore the sound.
2	PICTURE MODE	Press repeatedly to step through the available video picture modes: Vivid, Standard, Movie, Pro. Also available in the Video menu. For details, see “Selecting Video Options” on page 36.
3	DRC MODE	For high quality sources (i.e., DVD player, Satellite Receiver), this button cycles through the available high-resolution picture modes: Interlaced, Progressive. Also available in the Video menu. For details, see “Selecting Video Options” on page 36.
4	JUMP	Press to jump back and forth between two channels. The TV alternates between the current channel and the last channel that was selected.
5	TV/VIDEO	Cycles through the video equipment connected to you TV’s video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4, VIDEO 5, VIDEO 6.
6		Turns on / off Twin View. For details, see “Using Twin View” on page 31.
7	VOL +/-	Adjusts the volume.
8		Joystick allows for movement of the on-screen cursor. Pressing down on the center of the joystick selects the item.
9	RESET	Press when in a menu to reset the settings to the factory defaults.
10	POWER buttons (GREEN)	Turn on and off the TV and other audio / video equipment you have programmed into the remote control. For instructions, see “Programming the Remote Control” on page 50.
11	DISPLAY	Press once to display the current time and channel label (if set) and channel number. Press again to turn Display off. See page 46 for details on setting the time.
12	ANT	Changes between the VHF / UHF input to the AUX input.

	Button	Description
13	MTS/SAP	Press the TV FUNCTION button first, then press MTS/SAP to cycle through the Multi-channel TV Sound (MTS) options: Stereo, Auto-SAP (Second Audio Program), and Mono. For details, see “Using the Audio Menu” on page 38.
	GUIDE	Press the SAT/CABLE FUNCTION button first, then press GUIDE to display the program guide of your satellite antenna.
14	0 – 9 and ENTER	Press 0 - 9 to select a channel, the channel changes after 2 seconds. Press ENTER to select immediately.
15	FUNCTION buttons (WHITE)	Select the equipment (TV, VCR / DVD, SAT / CABLE) that you want to operate. The indicator lights up momentarily when pushed to show which device the remote control is operating.
16	FREEZE	Freezes the window picture. Press again to restore the picture.
17	MENU	Press to display the TV on-screen menu. Press again to exit from the menus.
18	CH +/-	Scan through channels.
19	FAVORITES	Displays the Favorite Channels list. For details, see “Using Favorite Channels” on page 30.
20	AV 1 2 3 DVD 	Use to switch control for connected video equipment. You can program one video source for each switch position (For details, see “Programming the Remote Control” on page 50).

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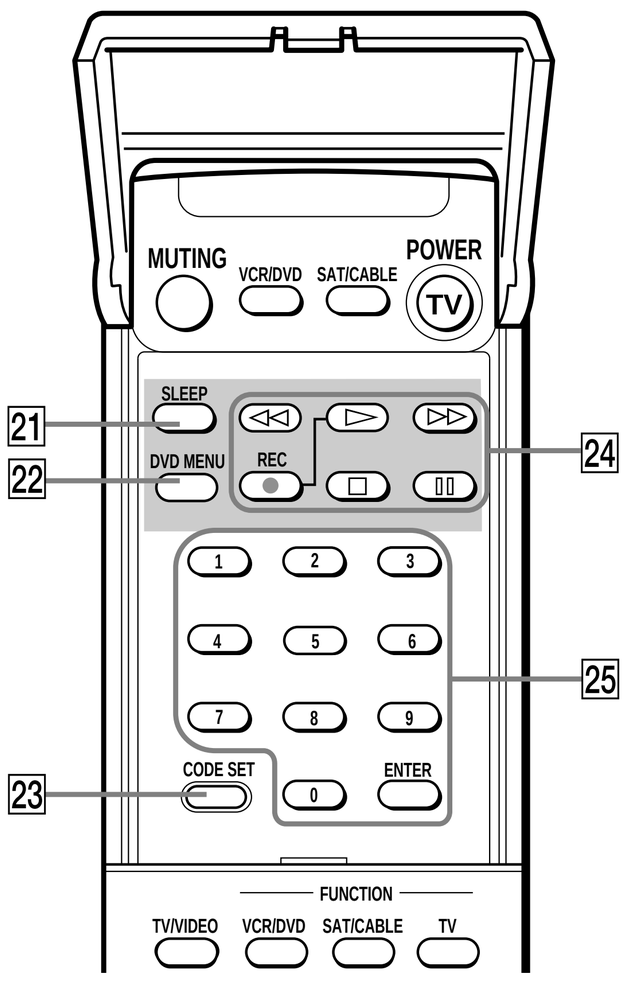

Inside Panel

21 SLEEP	Press repeatedly until the TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the TV to remain on before shutting off automatically. Cancel by pressing until SLEEP OFF appears. While Sleep feature is set, press once to view remaining time
22 DVD MENU	Displays the DVD menu.
23 CODE SET	Used for programming the remote control to operate non-Sony video equipment. For details, see “Programming the Remote Control” on page 50.
24 VCR/DVD CONTROLS	
◀◀	Rewind
REC	Record
►	Play
▶▶	Fast-forward
❚❚	Pause
■	Stop
25 0 – 9 and ENTER	Press 0 – 9 to select a VCR channel, the channel changes after 2 seconds. Press ENTER to select immediately.

Installing the TV

Overview

This chapter includes illustrated instructions for setting up your TV.

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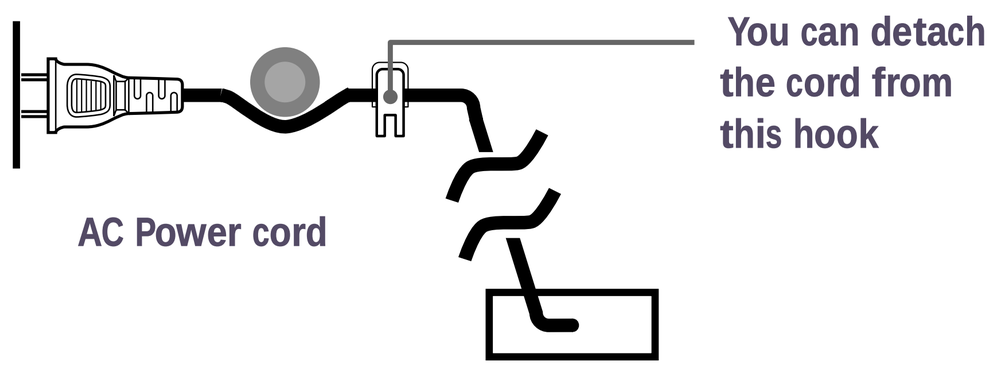
Note About the AC Power Cord

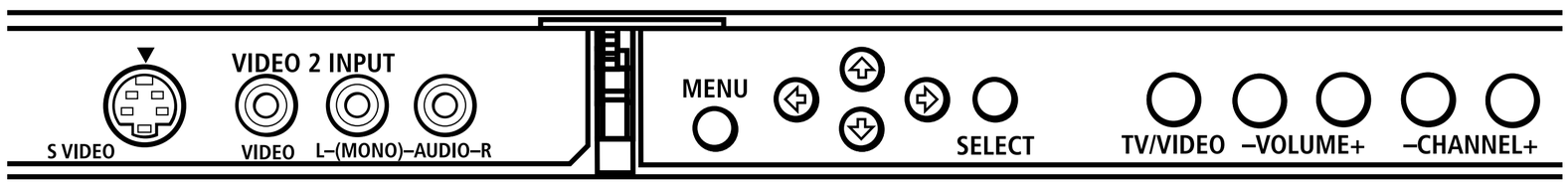
The AC power cord is attached to the rear of the TV with a hook. Use caution when removing the AC plug from its holder. Gently slide the plug in the upward direction to remove from hook. Once removed, the AC power plug should automatically disengage from its stored location.



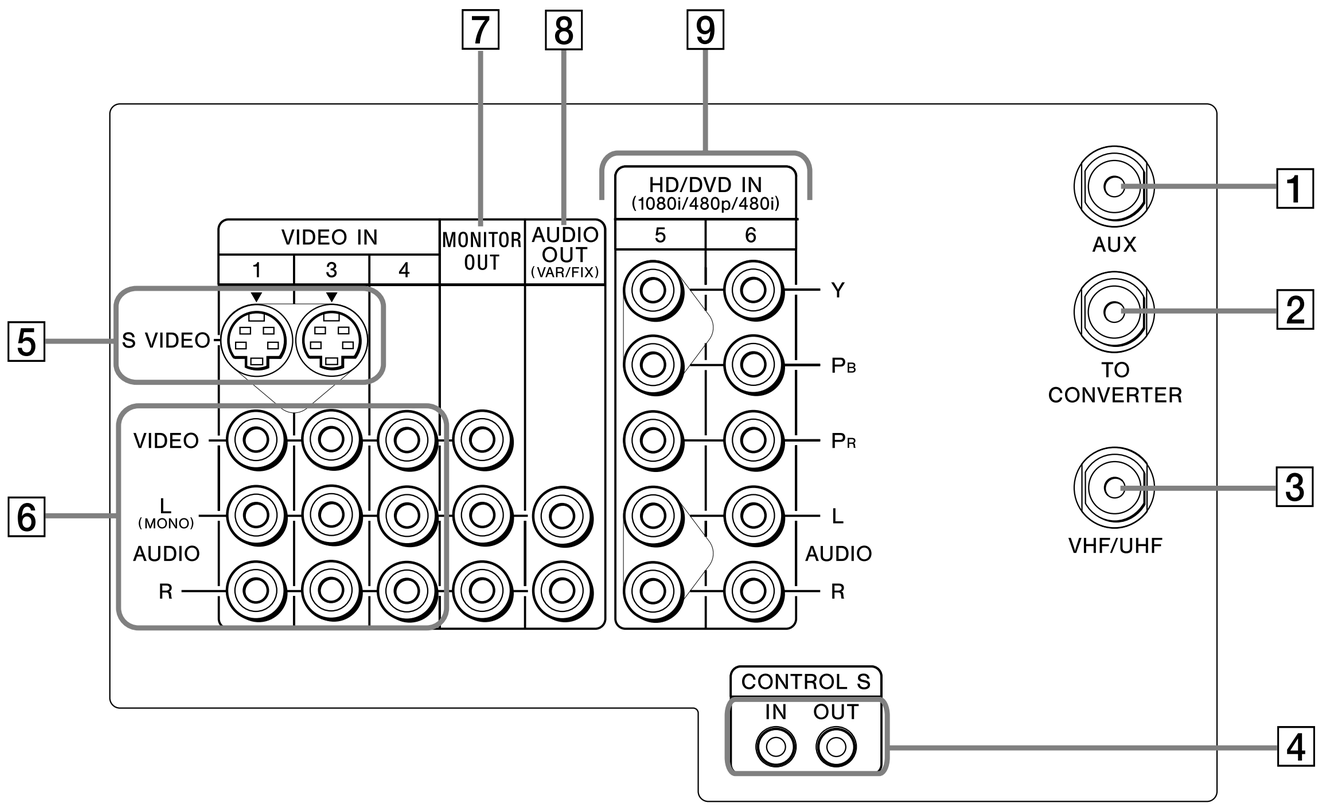
TV Controls and Connectors

Front Panel Menu Controls

The front panel menu controls allow access to the on-screen menus without the use of a remote control. Pressing the MENU button brings up the on-screen menus. The arrow buttons move the on-screen cursor in the menus and the SELECT button selects the menu item.



TV Rear Panel



	Connection	Description
1	AUX	Allows you to view local and cable channels if your cable provider does not feature local channels. You can switch between local and cable channels by pressing ANT on the remote control. Devices connected to the AUX input can be viewed only in the Twin View left picture.
2	TO CONVERTER	This is a VHF/UHF OUT jack that lets you set up your TV to switch between scrambled channels (through a cable box) and normal cable channels (CATV). Use this jack instead of a splitter to get better picture quality when switching between scrambled and unscrambled cable channels.

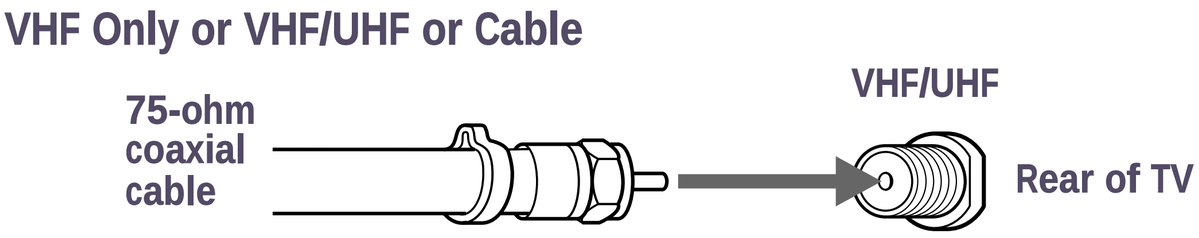
	Connection	Description
3	VHF/UHF	Connects to your VHF / UHF antenna or cable.
4	CONTROL S IN/OUT	Allows the TV to receive (IN) and send (OUT) remote control signals to other Sony infrared-controlled audio or video equipment.
5	S VIDEO	Connects to the S VIDEO OUT jack of your VCR or other S VIDEO-equipped video equipment. Provides better picture quality than the VHF / UHF jacks or the Video IN jack.
6	VIDEO/AUDIO(L/R)	Connect to the audio and video OUT jacks on your VCR or other video equipment. A video input (VIDEO 2) is located on the front panel of the TV. The Audio and Video IN jacks provide better picture quality than the VHF / UHF IN jack.
7	MONITOR OUT	Lets you record the program you are watching to a VCR. When two VCRs are connected, you can use your TV as a monitor for tape-to-tape editing (not available with 480p or 1080i when the input is to VIDEO 5 or 6).
8	AUDIO OUT (VAR/FIX) L (MONO)/R	Connect to the left and right audio inputs of your audio or video equipment.
9	HD/DVD IN (1080i/480p/480i)	Connect to your DVD player's or Digital Set-top box's component video (Y, PB, PR) and audio (L / R) jacks.

Basic Connection (Connecting Cable TV or Antenna)

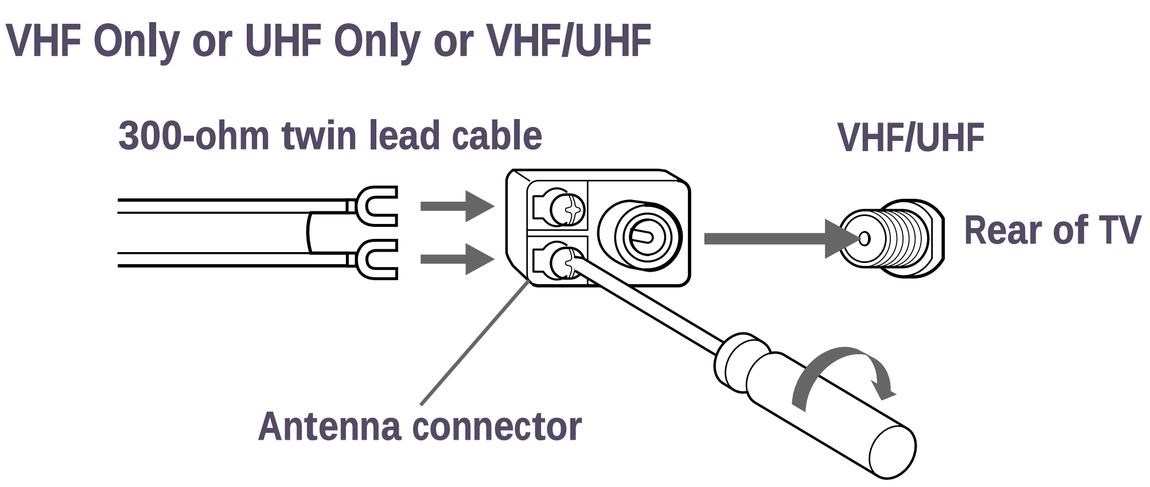
Connecting Directly to Cable or to an Antenna

The connection you choose depends on the cable found in your home.

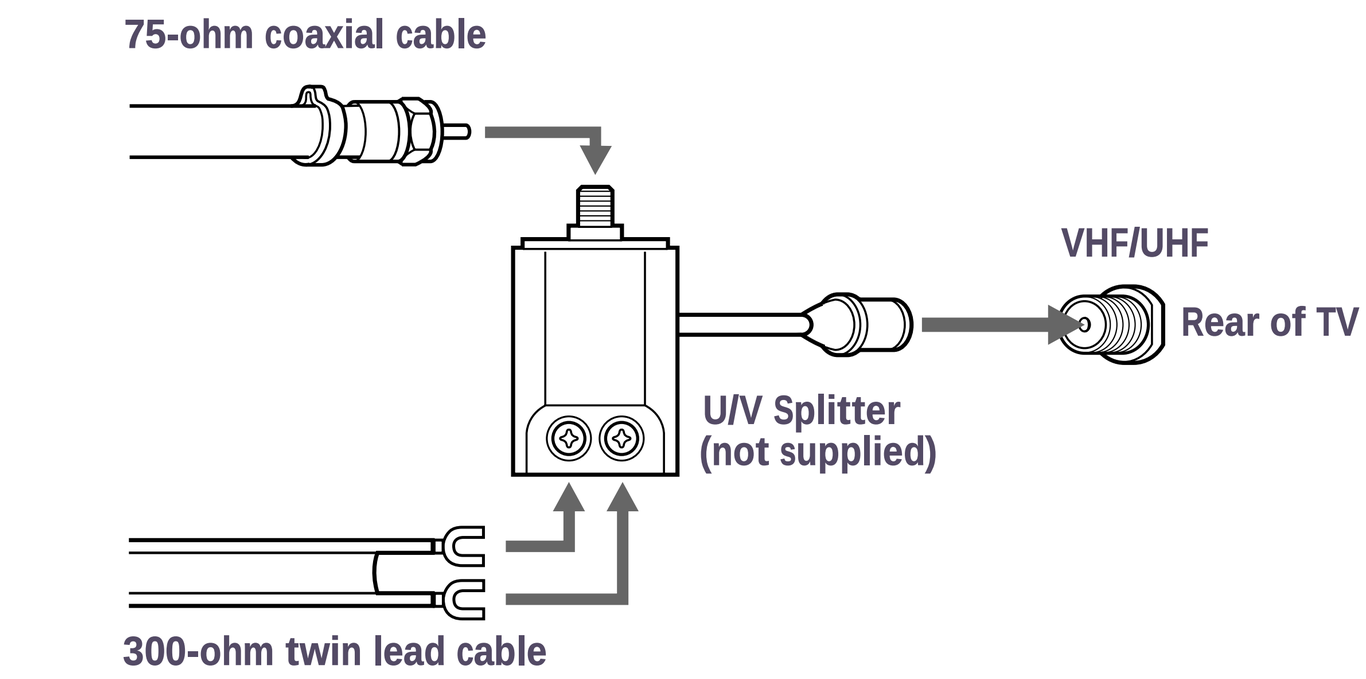
Newer homes are usually equipped with standard coaxial cable:



Older homes may have 300-ohm twin lead cable:

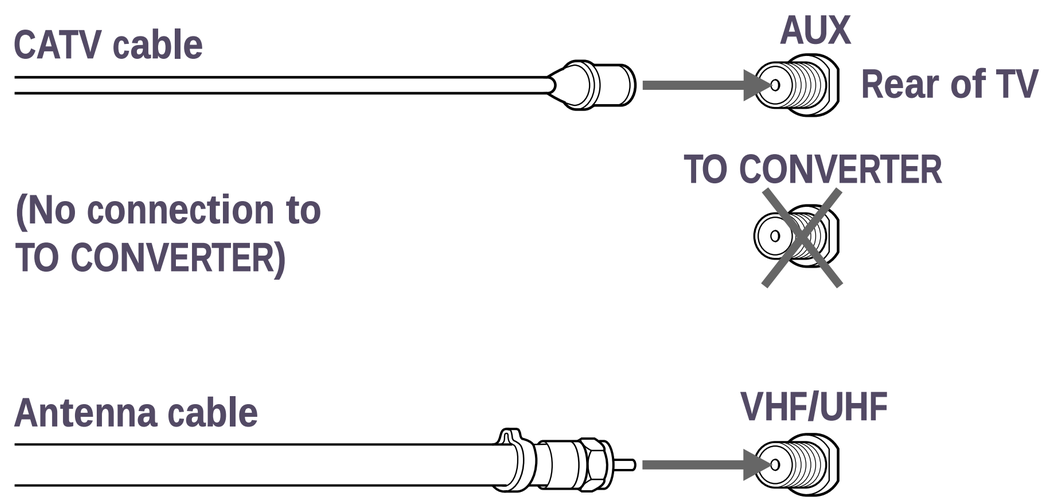


Some homes may have both:



Cable and Antenna

If your cable provider does not feature local channels, you may find this set-up convenient.



Select CABLE or antenna (ANT) mode by pressing ANT on the remote control.

To receive channels using an antenna, instead of the CATV cable:

1. Select antenna mode by pressing ANT on the remote control.
2. Turn the cable to OFF (see page 40).
3. Perform the Auto Program function (see page 40).

Cable Box Connections

Cable Box and Cable

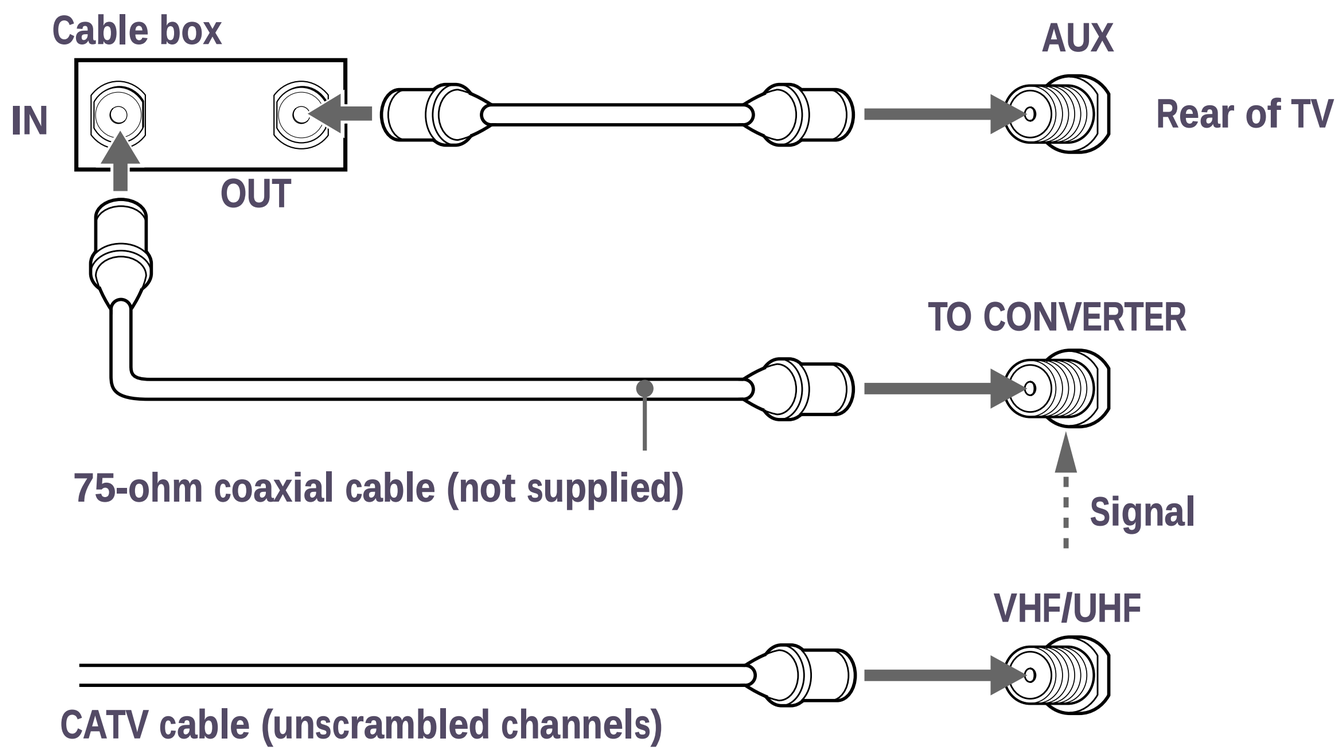
This is the preferred basic cable TV hookup to use if your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels), so you need to use a cable box.

With this setup you can:

- Use the TV remote control to change channels using your cable box when the signal is scrambled.
- Use the TV remote control to change channels using your TV when the signal is not scrambled. (Your TV's tuner provides a better signal than the cable box.)
- Use the Twin View feature. (When all channels are routed through your cable box, only one signal is sent to the TV, so you can not use the Twin View feature.)
- Use the Twin View feature normally with the CATV input.
- Use the Twin View feature partially with the cable box. When you switch the TV input to AUX — to use the cable box — the unscrambled picture from the cable box will display. You can display the signal from both AUX and VHF/UHF inputs in the left Twin View picture, but you can display only the signal from the VHF/UHF input in the right Twin View picture.

To set up your TV to use both a Cable Box and a direct-connect CATV cable:

1. Connect the Cable TV cable to the TV's VHF/UHF jack.
2. Using a coaxial cable, connect the TV's TO CONVERTER jack to the cable box's IN jack. The TV's internal converter allows you to switch between unscrambled signals coming straight into the TV and scrambled signals coming in through the cable box, eliminating the need for an external splitter.
3. Using a coaxial cable, connect the cable box's OUT jack to the TV's AUX jack.



To switch between channels from Cable Box and channels coming directly into TV

- ❑ Press the ANT button on the TV remote control.

To use the TV remote control to switch channels on the cable box

- ❑ Program the remote control as necessary. (See "Programming the Remote Control" on page 50.)

To use the cable box

- ❑ Have your TV tuner set to channel 3 or 4 (as appropriate) and then use the Cable Box to change channels.

To prevent the accidental switching of TV channels

- ❑ When using the VCR of Cable Box, you can use the Channel Fix feature to lock in a channel. The Channel Fix feature is under the Channel menu. (See "Using the Channel Menu" on page 40.)

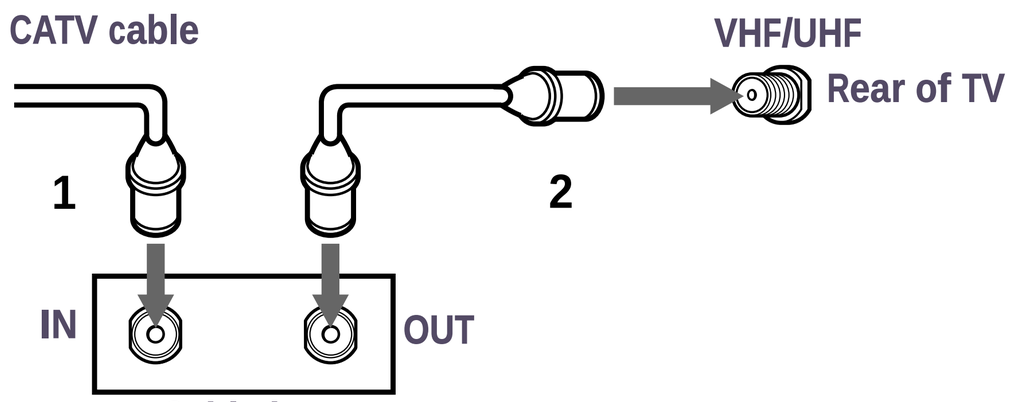
Cable Box Only

Use this hookup if:

- ❑ You subscribe to a cable TV system that uses scrambled or encoded signals requiring a cable box to view all channels, and
- ❑ You do not intend to hook up any other audio or video equipment to your TV.

When all channels are routed through your cable box, only one unscrambled signal is sent to the TV, so you cannot use the Twin View feature. If some channels are scrambled, but others are not, consider using the hookup on page page 12 instead.

1. Connect the coaxial connector from your cable service to the cable box's IN jack.
2. Using a coaxial cable, connect the cable box's OUT jack to the TV's VHF / UHF jack.



Cable box

To use the cable box

- ❑ Have the TV tuner set to channel 3 or 4 (as appropriate) and then use the cable box to change channels.

To use the TV remote control to switch channels on the cable box

- ❑ Program the remote control as necessary. For details, see "Programming the Remote Control" on page 50.

To prevent accidental switching of TV channels

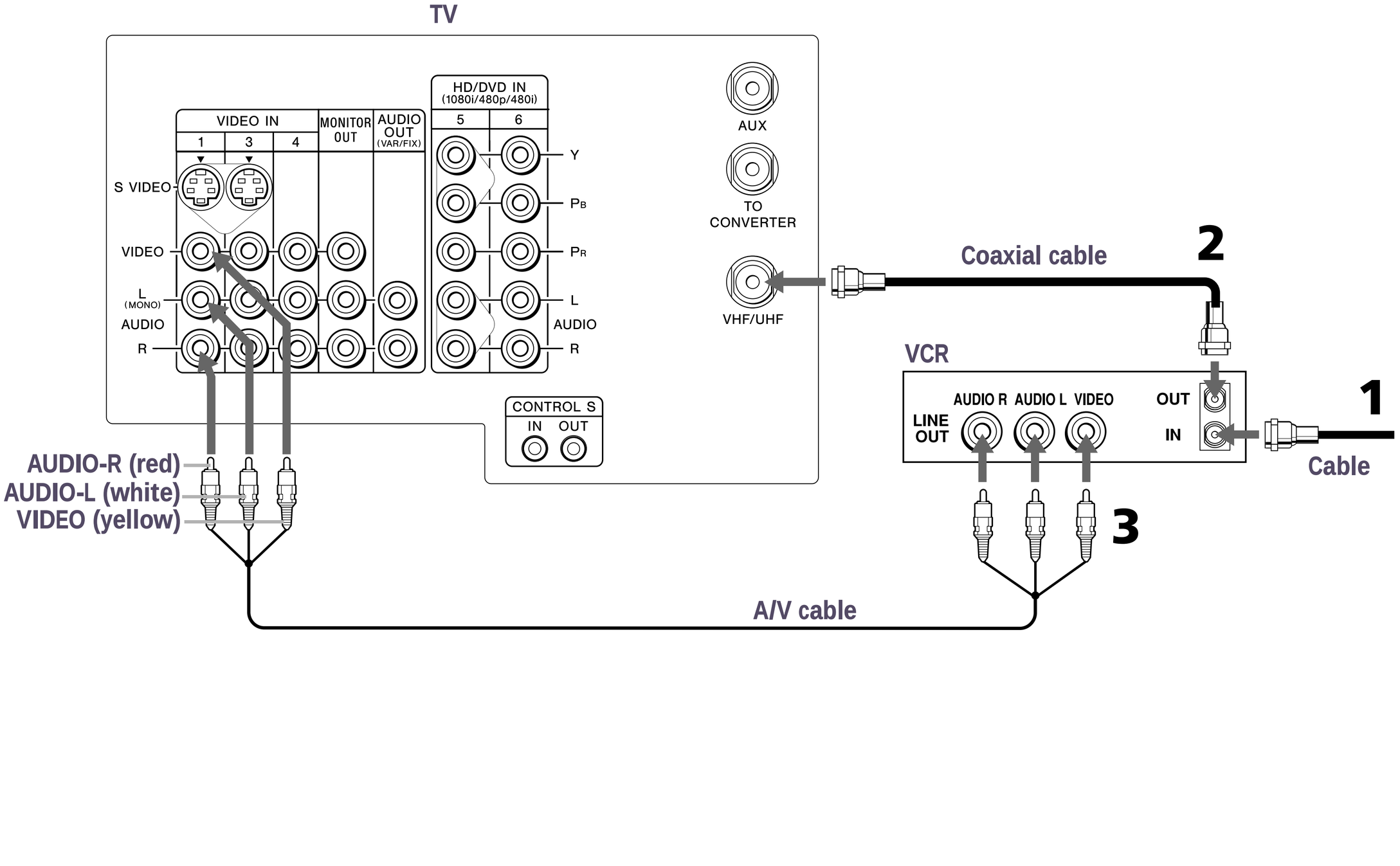
- ❑ Use the Channel Fix feature to lock in a channel. The Channel Fix feature is under the Channel menu. For details, see "Using the Channel Menu" on page 40.

Connecting a VCR and Cable

Use this hookup if you have cable TV that does not require a cable box.

1. Connect the cable TV cable to the VCR's IN jack.
2. Using a coaxial cable, connect the VCR's OUT jack to the TV's VHF/UHF jack.
3. Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.

✍ If the VCR you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because an S VIDEO cable carries only the video signal, you will need audio cables for sound.



Connecting a VCR and Cable Box

Use this hookup if:

- Your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels), so you need to use a cable box, and
- You want to use the Twin View feature.

With this setup you can:

- Use the TV remote control to change channels using your cable box when the signal is scrambled.
- Use the TV remote control to change channels using your TV when the signal is not scrambled. (Your TV's tuner provides a better signal than the cable box.)
- Use the Twin View feature.
- Record both regular CATV and scrambled channels.

To connect a cable box and a VCR, you will need:

- A small, inexpensive device known as a splitter.
- Three coaxial cables.
- Either a combination audio / video cable, or an S VIDEO cable and audio cables.

1. Connect the CATV cable to the single (input) jack of the splitter.
2. Use a coaxial cable to connect one of the two output jacks of the splitter to the TV's VHF / UHF jack.
3. Use a coaxial cable to connect the other output jack of the splitter to the input jack of the cable box.
4. Use a coaxial cable to connect the output jack of the cable box to the input jack of the VCR.
5. Use the video line (yellow) of a combination audio / video (A / V) cable to connect the video output jack of the VCR to the video input jack of the TV.

> ✍ If your VCR has an S VIDEO jack, you can substitute an S VIDEO cable for the video line of an A/V cable. The S VIDEO cable will provide improved video signal quality. (You will need audio cables for sound.)

Connect the left (white) and right (red) audio output channels of the VCR to the respective input channels on the TV.

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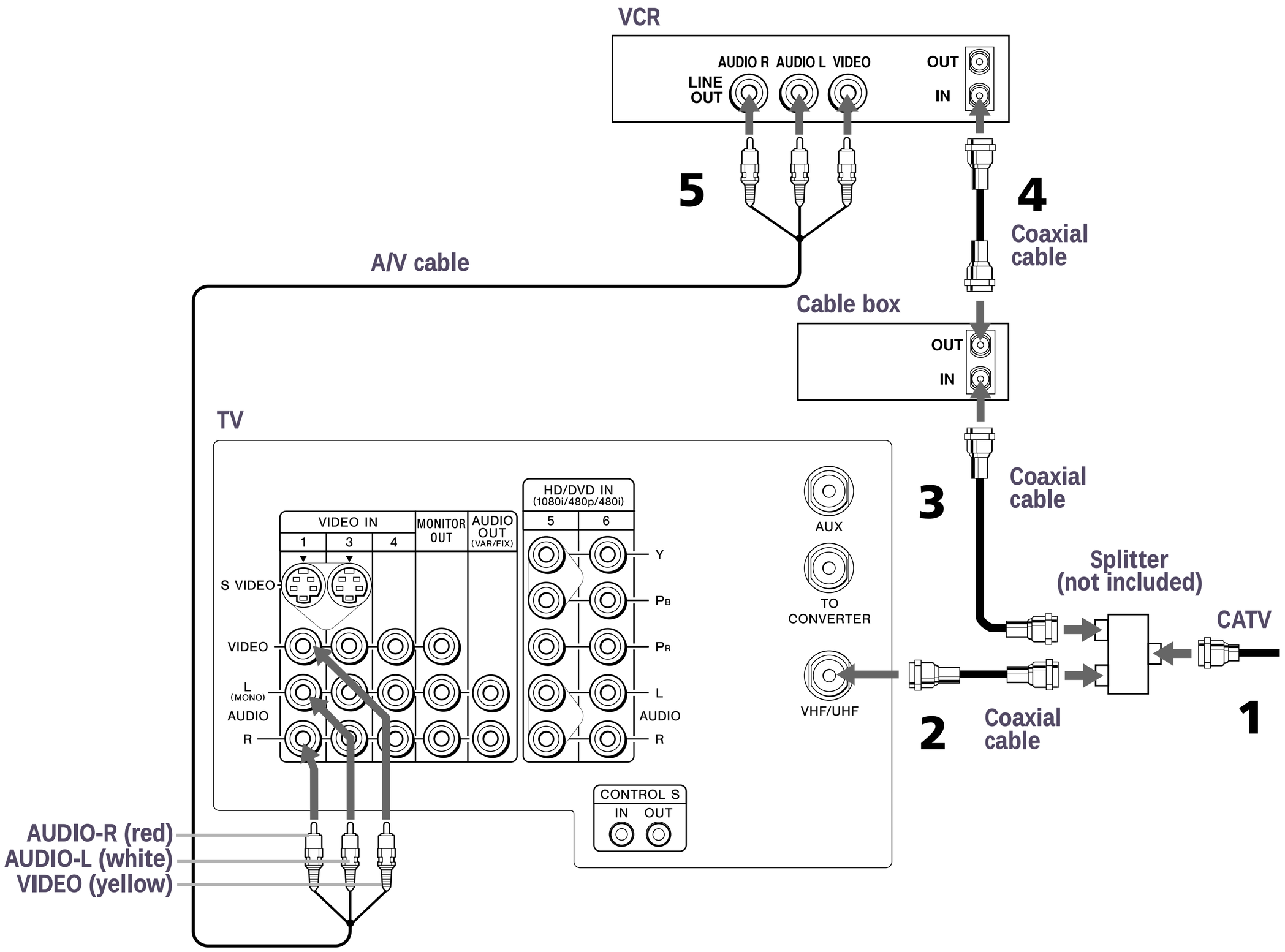


To switch between channels from cable box and channels from CATV

❑ Press the ANT button on the TV remote control.

To use the TV remote control to change channels on the VCR

❑ Program the remote control as necessary. (By default, the remote control is set for a Sony VCR; to change to another brand, see “Programming the Remote Control” on page 50.) Then use the VCR buttons on the remote control to change channels.

To use the TV remote control to change channels on the cable box

❑ Program the remote control as necessary. (For details, see “Programming the Remote Control” on page 50.) Then use the remote control to change the cable box channels.

To view cable box channels

❑ Set your TV to channel 3 or 4 (as appropriate) and then change channels on the cable box.

To prevent accidental switching of TV channels while using the cable box

❑ It is a good idea to use the Channel Fix feature of your TV when using the VCR or cable box. The Channel Fix feature locks the TV tuner to a specific channel (such as 3 or 4). The Channel Fix feature is under the Channel menu. (For details, see “Using the Channel Menu” on page 40.)

To use Twin View with the cable box

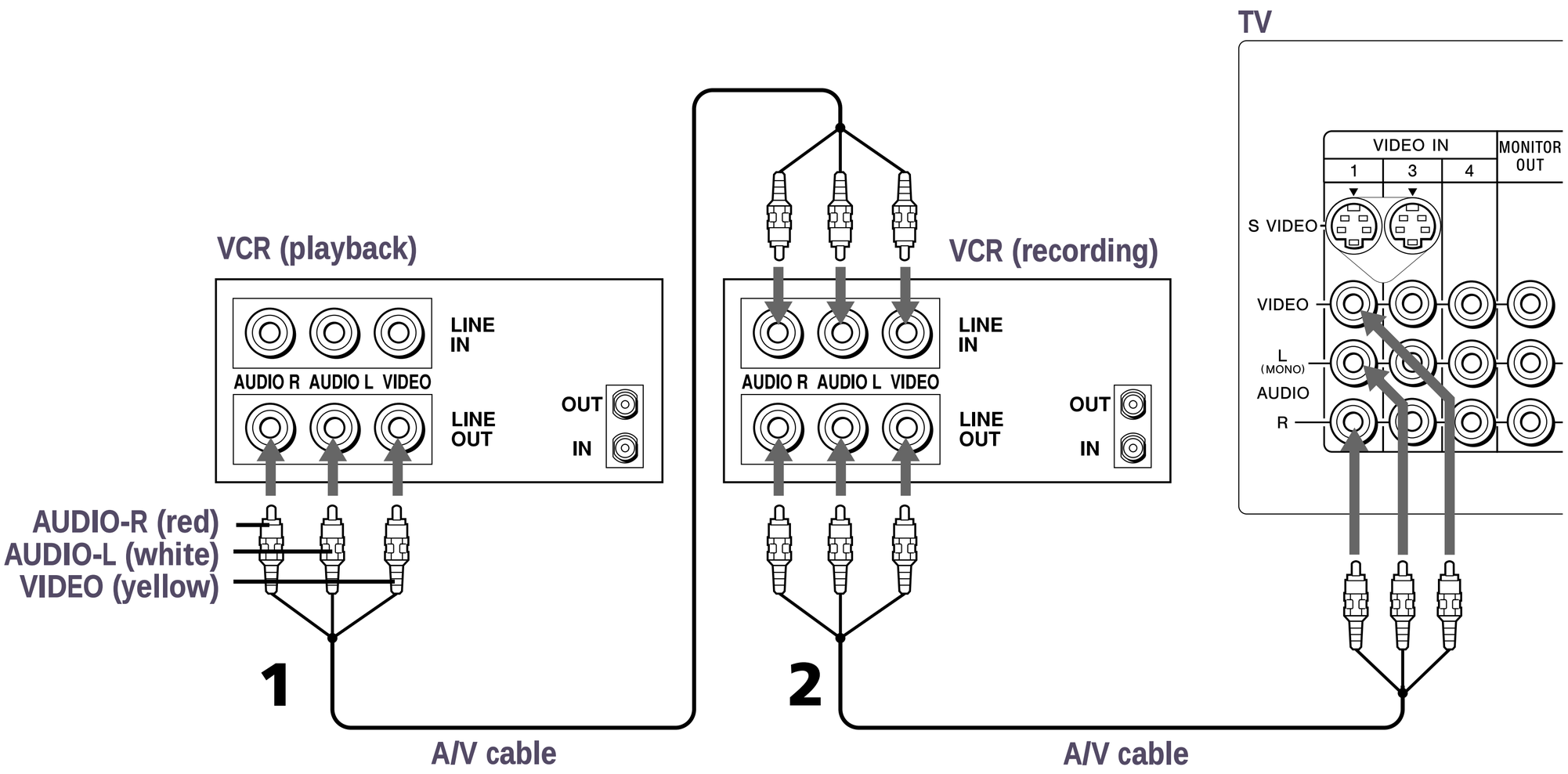
❑ Turn on the VCR. Use the remote control’s TV/VIDEO button to set the Twin View output to VIDEO 1. Change the Twin View channel via the VCR. (The VCR’s tuner is used as one of the Twin View picture sources; if you do not turn on the VCR, the Twin View will not work.)

✍ This system is needed because the cable box unscrambles only one channel at a time (unlike the CATV cable, which makes all channels available concurrently).

Connecting Two VCRs for Tape Editing

If you connect two VCRs, so you can record from one to the other, you can connect the recording VCR into your TV to monitor what is being recorded. The procedure below shows you how to do this.

1. Using an A/V cable, connect the playback VCR's Audio and Video OUT jacks to the recording VCR's Audio and Video IN jacks.
2. Using an A/V cable, connect the recording VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



To change the video input of the VCR

❑ See your VCR's user guide for instructions.

To view what is being recorded

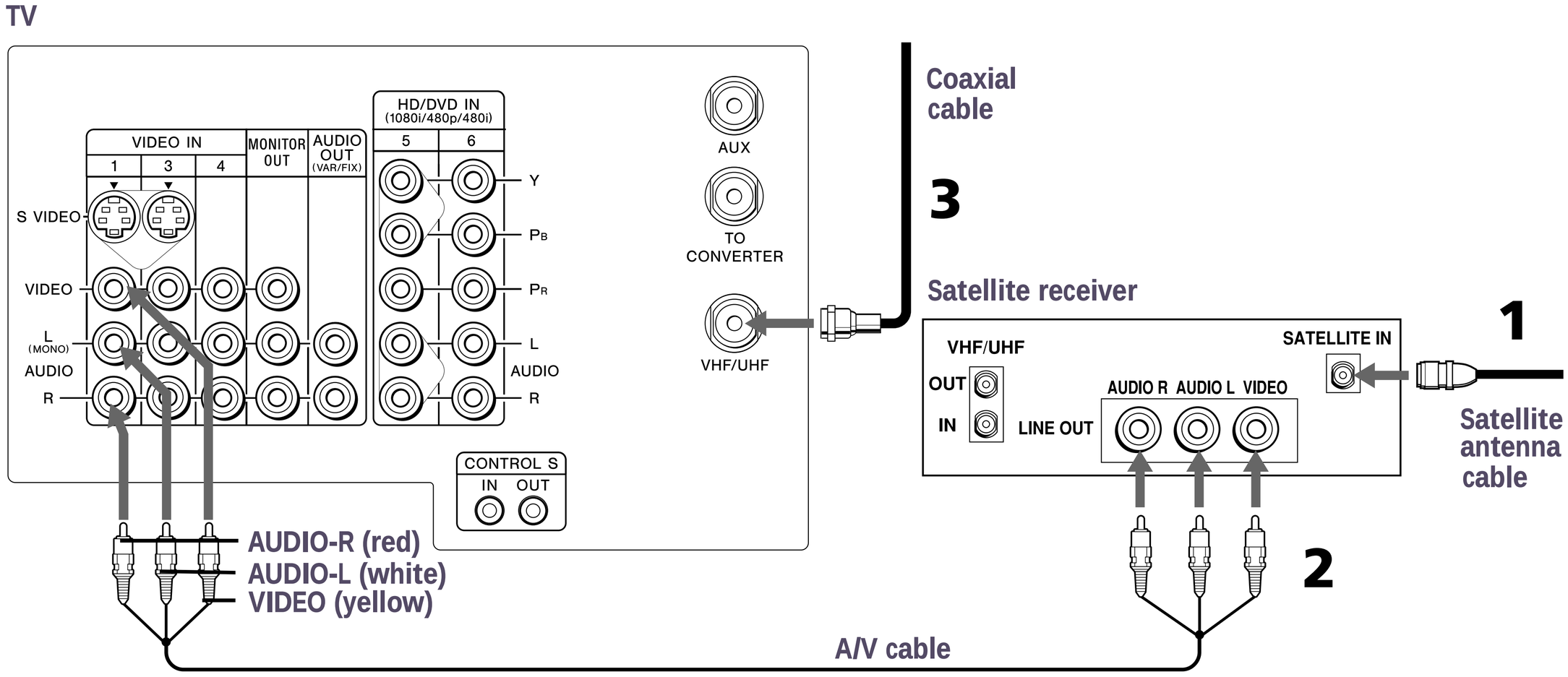
❑ Use the remote control to set the TV to the video input to which the recording VCR is connected. (VIDEO 1 in the illustration above.)

✍ If the VCRs you are connecting have S VIDEO jacks, you can use S VIDEO cables for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will need audio cables for sound.

Connecting a Satellite Receiver

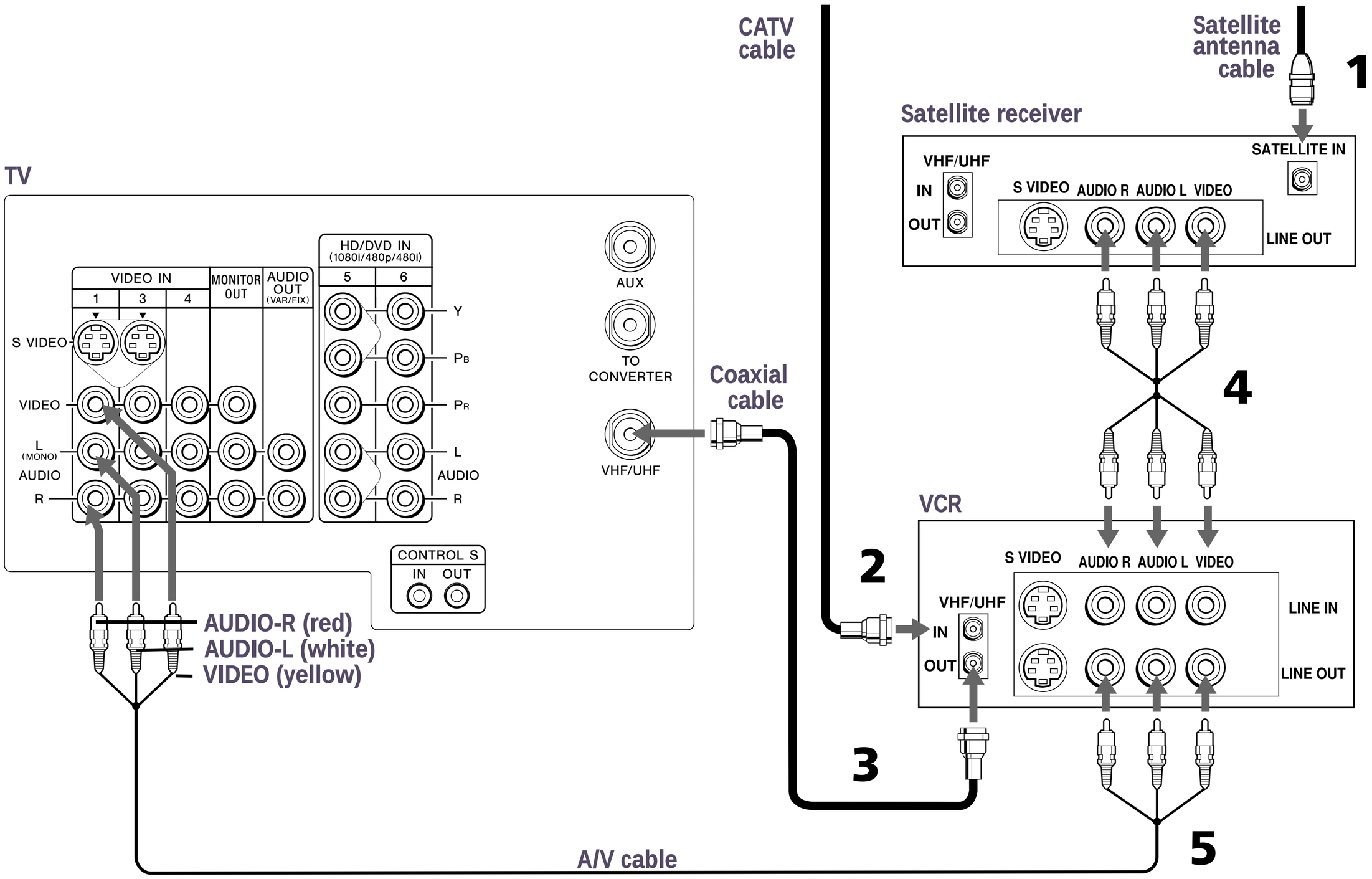
1. Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
2. Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.
3. Connect a coaxial cable from your cable or antenna to the TV's VHF/UHF jack.

✍ If the receiver you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will need audio cables for sound.



Connecting a Satellite Receiver with a VCR

1. Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
2. Connect the CATV cable to the VCR's VHF / UHF IN jack.
3. Using a coaxial cable, connect the VCR's OUT jack to the TV's VHF / UHF jack.
4. Using an A / V cable, connect the satellite receiver's Audio and Video OUT jacks to the VCR's Audio and Video IN jacks.
5. Using an A / V cable, connect the VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



✍ If the peripherals you are connecting have S VIDEO jacks, you can use S VIDEO cables for improved picture quality (compared to combination audio/video cables). Because S VIDEO cables carry only the video signal, you will need audio cables for sound.

6 If necessary, change the video input on your VCR. (See your VCR's user's guide for instructions on how to do that.)

To watch satellite TV, or the VCR

❑ Press TV/VIDEO on the remote control to select VIDEO 1.

To watch cable TV

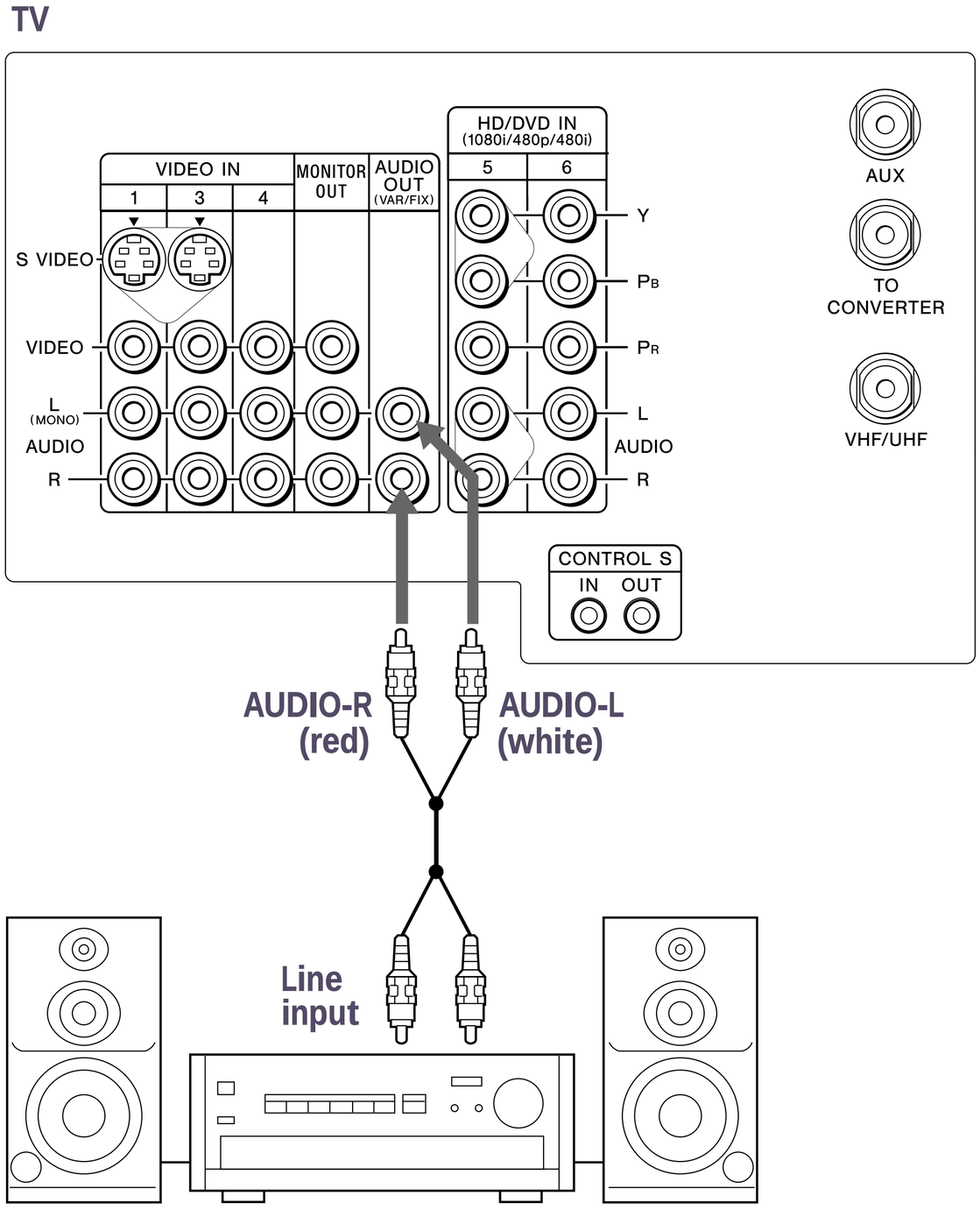
❑ Press TV/VIDEO on the remote control to select VHF / UHF (to select the CATV cable on the TV).

Connecting an Audio Receiver

For better sound quality, you may want to connect your TV to your stereo system's audio receiver.

To connect to an audio receiver

❑ Use audio cables to connect the TV's Audio OUT jacks to the audio receiver's audio LINE IN jacks.



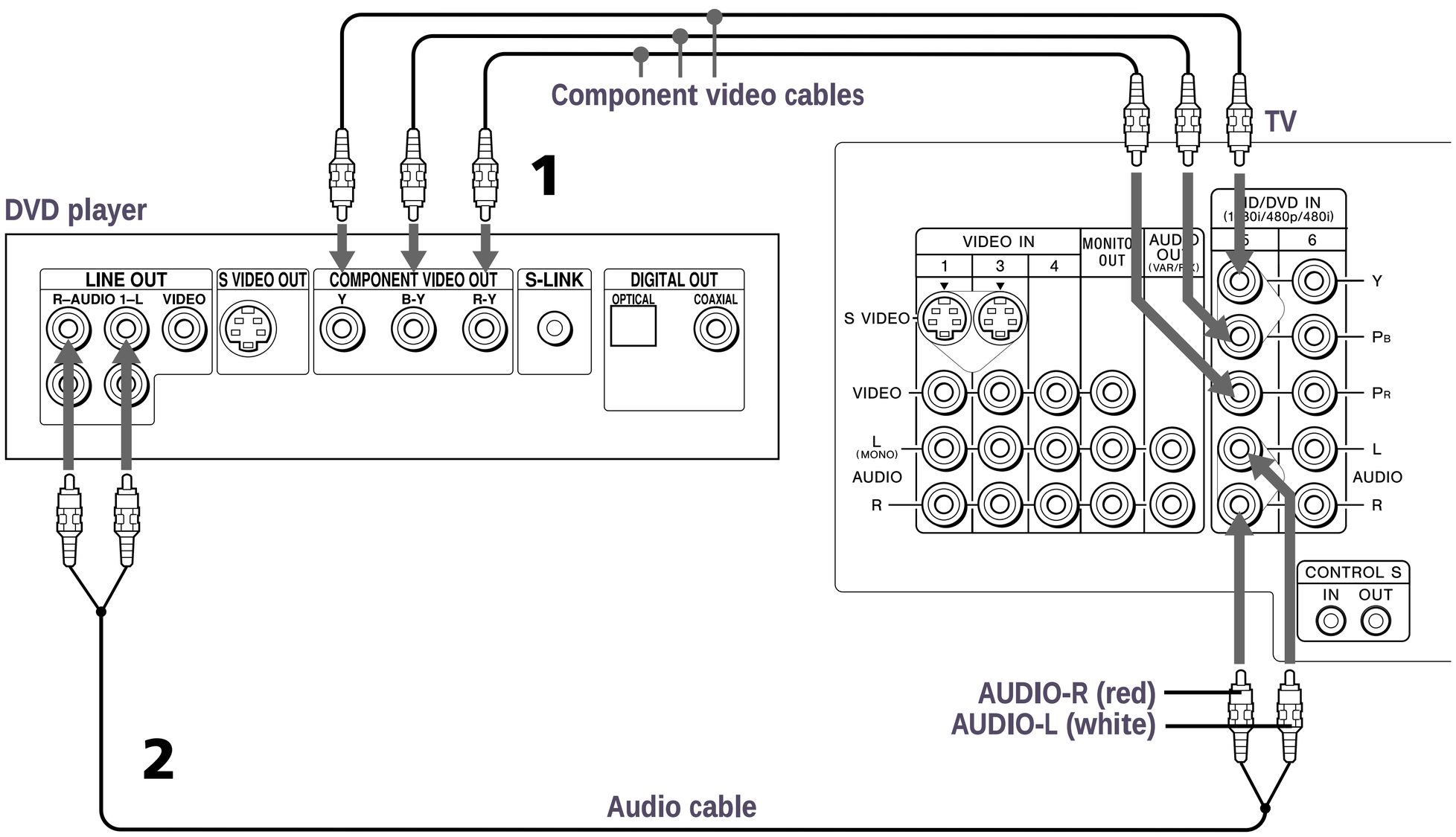
Connecting a DVD Player with Component Video Connectors

This is the preferred hookup to use if your DVD player has component (Y, P_B, P_R) jacks.

1. Using three separate component video cables, connect the DVD player's Y, P_B and P_R jacks to the Y, P_B and P_R jacks on the TV — the number 5 or 6 connections under HD/DVD IN.

✍ The Y, P_B and P_R jacks on your DVD player are sometimes labeled Y, C_B and C_R, or Y, B-Y and R-Y. If so, connect the cables to like colors.

2. Using an audio cable, connect the DVD player's Audio OUT jacks to the TV's Audio IN jacks. Be sure to use the same column of inputs that you used for the video connection (HD/DVD IN 5 or 6).



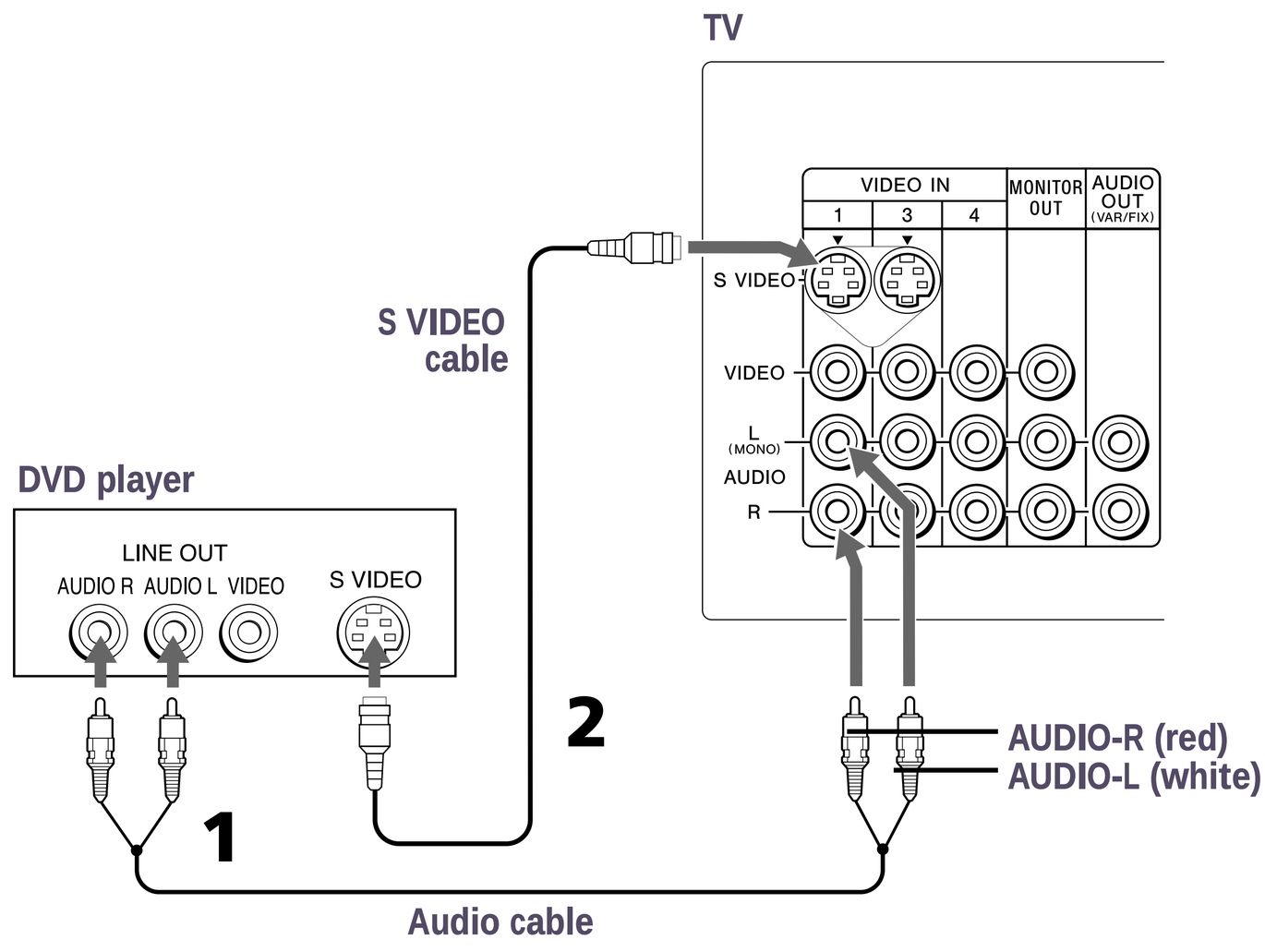
✍ You cannot use the MONITOR OUT jacks to record the signal from any equipment connected into the Y, P_B, P_R jacks.

Connecting a DVD Player with A/V Connectors

Use this hookup if your DVD player does not have component (Y, PB, PR) jacks.

> ✍ An S VIDEO connection will give a good-quality video signal, but if your DVD player has component video, that connection (described on the previous page) will give an even better signal.

1. Using audio cables, connect the DVD player's Audio OUT jacks to the TV's Audio IN jacks.
2. Using an S VIDEO cable, connect the DVD player's S VIDEO jack to the TV's S VIDEO jack.



To switch between your TV and DVD

❑ Use the TV/VIDEO button on the TV's remote control to switch from one input device to another.

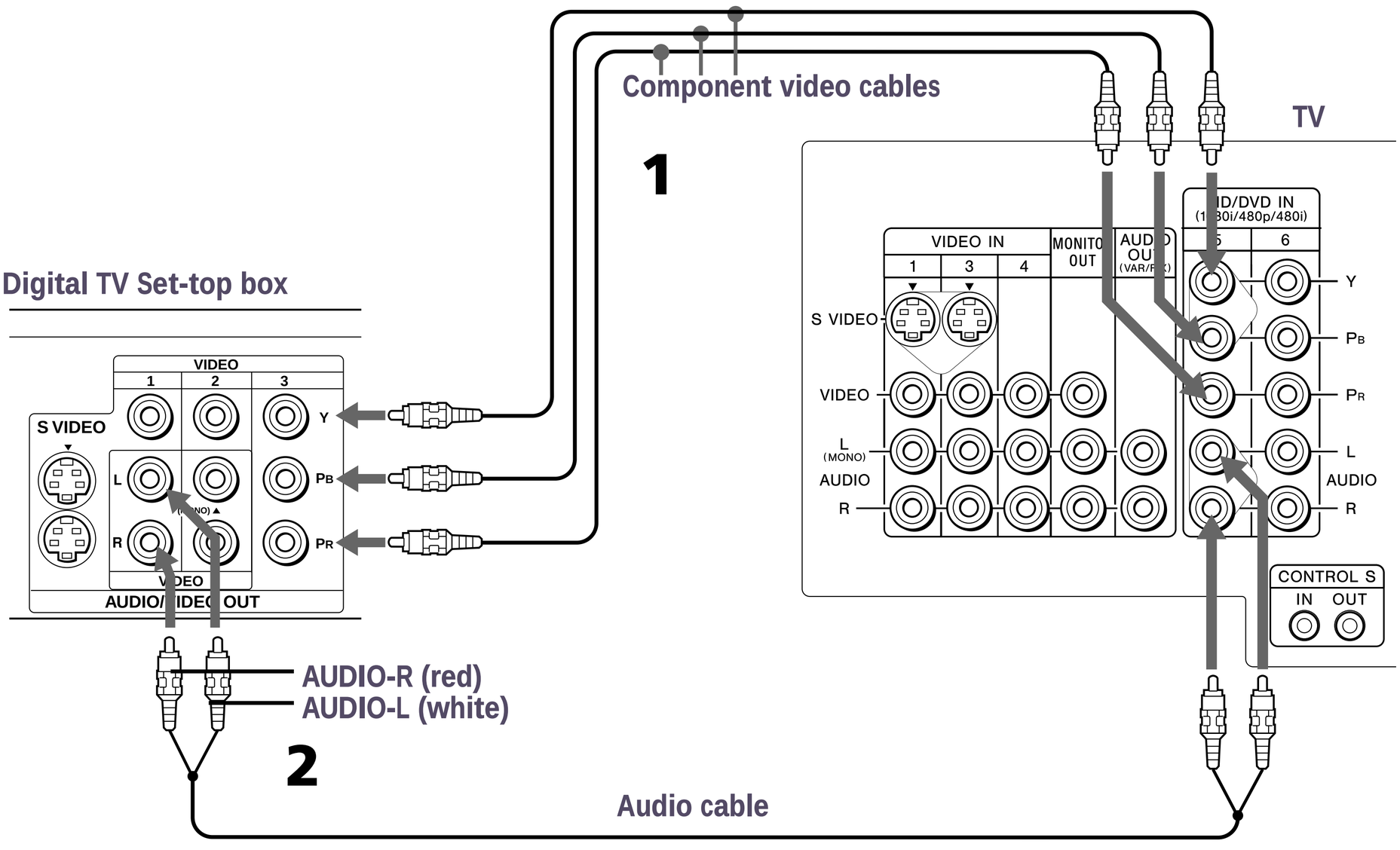
Connecting a Digital TV Receiver

Be sure to read the manual for the Set-top box.

1 Using three separate component video cables, connect the Digital TV Set-top box's Y, P_B and P_R jacks to the TV.

If you prefer, you can use an S VIDEO cable instead of the Y, P_B and P_R connections. The Y, P_B and P_R connections will provide the best-quality picture, but you cannot record the signal from any equipment connected to the Y, P_B and P_R inputs.

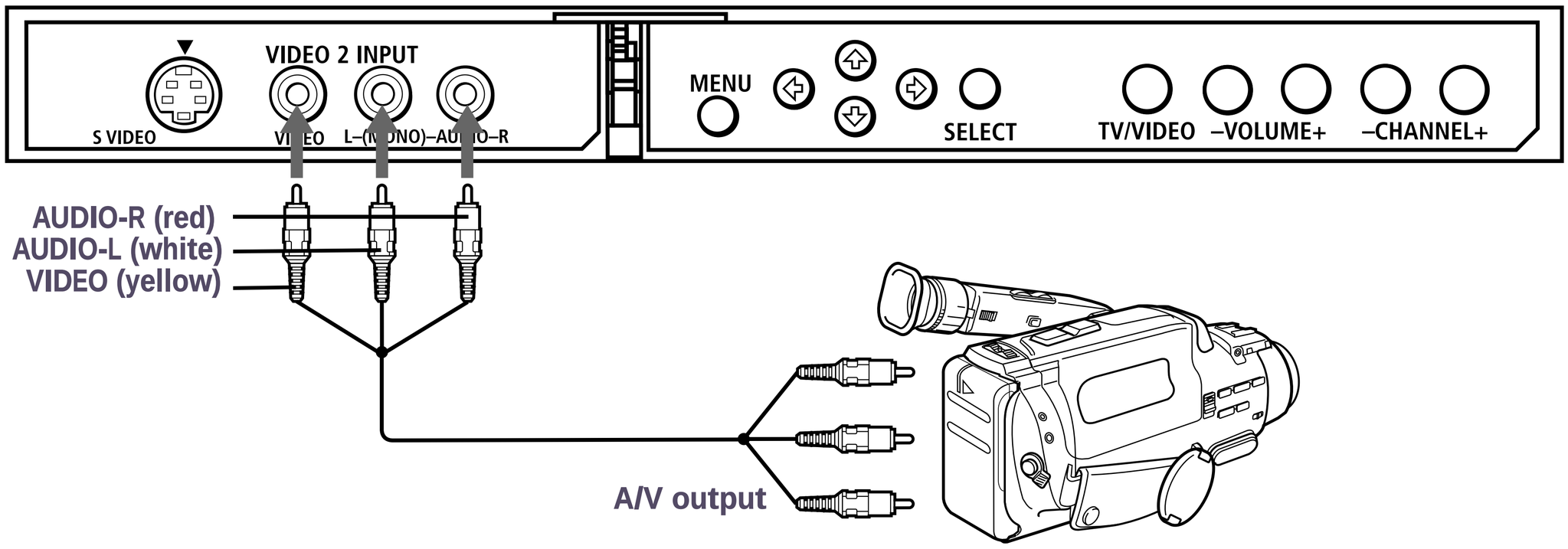
2 Using an audio cable, connect the Digital TV Set-top box's Audio OUT jacks to the TV's Audio IN jacks.



Connecting a Camcorder

For easy connection of the camcorder, the TV has front Audio and Video inputs (shown below). If you prefer, you can connect the camcorder to the TV's rear Audio and Video IN jacks.

1 Using A/V cables, connect the camcorder's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



If you have a mono camcorder, connect its audio output to the TV's AUDIO L jack.

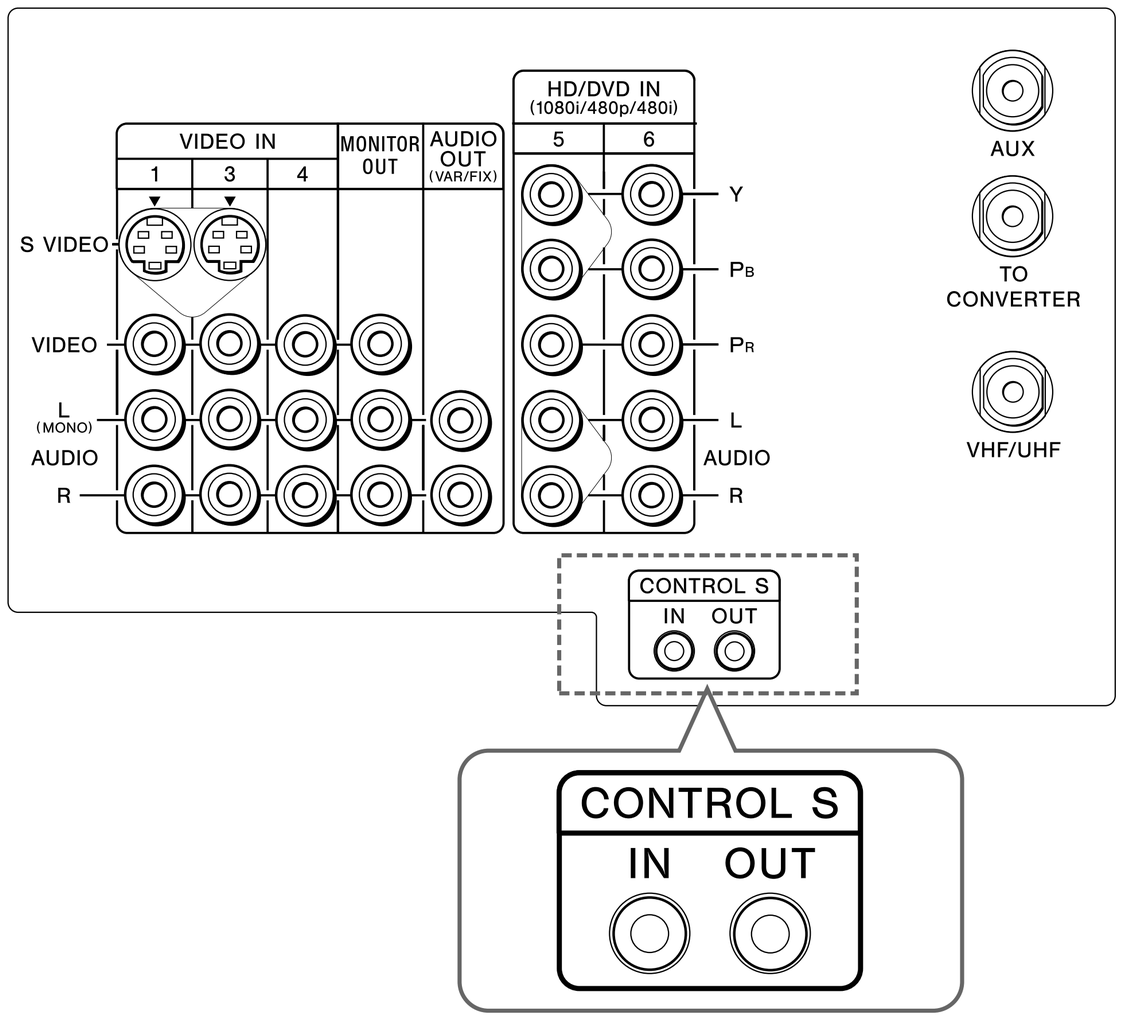
✍ If the camcorder you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.

To view the camera's output

❑ Use the TV/VIDEO button on the front panel of the TV (or on the remote control) to set the TV to the video input to which the camcorder is connected. (VIDEO 2 in the illustration above.)

Using the CONTROL S Feature

The CONTROL S feature allows you to control your TV, plus other Sony equipment (such as a DVD player or VCR) connected to the TV, using only the TV's remote control. In addition to allowing you to control multiple devices with one remote control, the CONTROL S feature allows you to always point your remote control at your TV, instead of having to point it at the other equipment, which might be hidden or out of direct line of sight.



Setting Up the TV Automatically

After you finish connecting your TV, you can run Auto Setup to set up your channels. The Auto Setup screen appears when you turn your TV on for the first time after installing it. If you do not want to set up the channels at this time, you can do it later by using the Auto Program feature in the Channel menu (see page 40 for information regarding Channel menu).

✍ The Auto Setup feature does not apply for installations that use a cable box for all channel selection.

Using Auto Setup

1. Turn on the TV.
2. Press the TV button on the remote control.
3. Using the main set of buttons on the remote control, press CH+ to run Auto Setup.
4. After Auto Setup has run, press CH– to exit.

Reset TV to Factory Settings

To reset your TV to the factory settings

1. Turn on the TV.
2. Hold down the RESET button on the remote control.
3. Press and release the POWER button on the TV. (The TV will turn itself off, then back on.)
4. Release the RESET button.

Using the Features

Overview

This chapter describes how to use features of your TV.

Topic	*Page*
Using Favorite Channels	30
Using Twin View	31
Using the Freeze Function	34

Using Favorite Channels

The Favorite Channel feature lets you select programs from a list of favorite channels that you previously specified.

To display a list of your favorite channels:

1. If you have not already done so, create a list of favorite channels. (For information on setting up Favorite Channels see “Selecting Channel Options” on page 40.)
2. Press the FAVORITES button on the remote control.

3. Move the joystick ↑ or ↓ to highlight the channel you want to watch. The program on that channel appears in the preview window.
4. Press the FAVORITES button on the remote control to select the channel.

Using Twin View

Twin view lets you see two pictures — from an antenna, a VCR, a DVD, etc, — on the screen at the same time. (You can only hear the sound associated with one of the pictures however. You choose which picture's sound is selected.) You can change the relative size of each of the pictures.

Displaying Twin Pictures

To display twin pictures

1 Press the ◑ button. (A second picture-window appears.)

2 To cancel twin pictures

- ❑ Press the ◑ button
  or
- ❑ Press the ⊙ button.

Activating the Picture

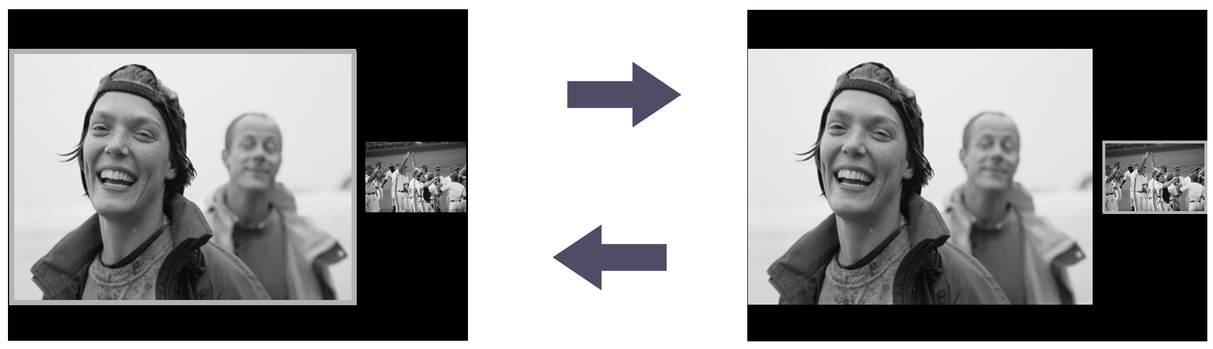
With Twin View, the picture highlighted with a blue frame is active. In the active picture, you can:

- Change channels
- Adjust the volume.
- Switch the input sources (to go from UHF/VHF to CATV cable, for example, press TV/VIDEO on the remote control).
- Change the picture size by pressing ⇧/⇩ on the joystick.

✍ Normally the TV memorizes the last-used sizes; when Twin VIew is turned off, then back on, the last-used sizes are displayed. If you are using the enhanced 16:9 picture, however, the aspect ratio changes to 4:3 in Twin View, and the picture is reformatted to that ratio.

To activate the right picture

- Move the joystick to the right (without pressing down on it).



To activate the left picture

- Move the joystick to the left (without pressing down on it).

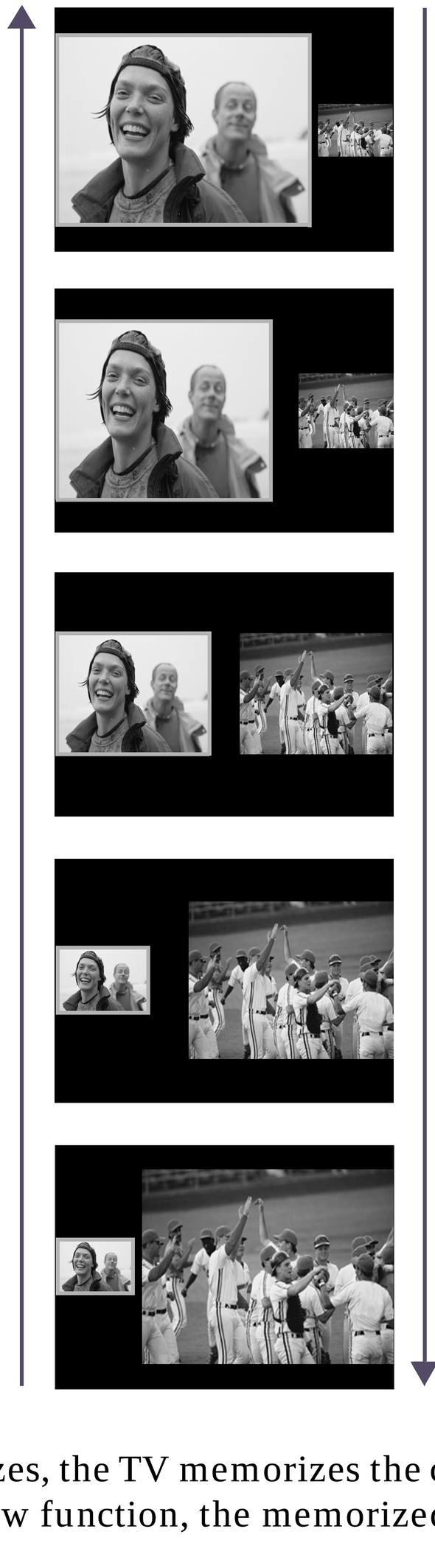
Factors affecting Twin View include:

- Equipment connected to the AUX and HD/DVD IN (numbers 5 and 6) inputs cannot be displayed in the right Twin View picture.

Changing the Picture Size

The zoom feature lets you vary the relative size of the left and right pictures.

1. Activate the picture whose size you want to change.
2. Press ↑ on the joystick to enlarge the picture.
3. Press ↓ on the joystick to make the picture smaller.



When you adjust the twin screen sizes, the TV memorizes the change. The next time you use the Twin View function, the memorized sizes appear.

Using the Freeze Function

The FREEZE button allows you to temporarily capture a program's picture. You can use this feature to write down information such as phone numbers, recipes, etc.

The FREEZE feature works only in normal view; if you are in TWIN VIEW, it will not work.

To use the FREEZE function

1. When the program information you want to capture is displayed, press the FREEZE button, on the remote control.
2. The TV switches to Twin View mode and displays the "frozen" picture on the right, while the current program continues on the left.

3. To cancel and return to normal viewing, press the FREEZE button.

Using the Menus

Overview

Opening and choosing a menu:

1. Press the MENU button to display the Menu screen.
2. Move the joystick to the desired menu icon and press ⊕ to select it.
3. Use the joystick to scroll through the features.
4. See the specific menu page for instructions on moving through the menu.

The Menu gives you access to the following features:

Menu Icon	Description	Page
	VIDEO allows you to make adjustments to your picture settings. It also allows you to customize the Picture Mode based on the type of program you are viewing.	36
	AUDIO offers enhanced audio options such as listening to second audio programming (SAP), or customizing the effect of the sound on your TV.	38
	CHANNEL allows you to set up a Favorite Channel list, run the Auto Program function, and more.	40
	PARENT lets you control the viewing of programs based on their ratings.	42
	TIMER lets you set the clock on your TV and allows you to program your TV for scheduled viewing using the Timers.	46
	SETUP provides several options for setting up your channels, labeling your video inputs, and selecting the language of the on-screen menus.	47

To end a menu session:

Press MENU again.

To end one menu session and move to another:

Move the joystick upward to return to the menu icons.
Move the joystick to choose the next menu icon and press ⊕ to select it.

Using the Video Menu

To select the Video Menu

1. Press MENU.
2. Move the joystick to the Video icon and press .
3. Use the joystick to scroll through the features.
4. Press to select a feature. That feature's adjustment appears.
5. Use the joystick to make the desired adjustments.
6. Press to select/set.
7. Press MENU to exit the menu screen.

To restore the factory default settings for Picture, Brightness, Color, Hue, and Sharpness, Color Temp and VM.

❑ Press RESET on the remote control when in the Video menu.

Selecting Video Options

To change from one Video Mode to another, use the PICTURE MODE button on the remote control.

The Video Menu includes the following options.

Option	Description	
Mode *Customized picture viewing*	Vivid	Select for enhanced picture contrast and sharpness.
	Standard	Recommended for normal viewing conditions.
	Movie	Select for soft, film like, picture.
	Pro	Select for professional monitor like appearance.
	✎ You can alter the Video Menu settings (Picture, Brightness, Color, etc.) for each Mode.	
Picture	Adjust to increase picture contrast and deepen the color or decrease picture contrast and soften the color.	
Brightness	Adjust to brighten or darken the picture.	
Color	Adjust to increase or decrease color intensity.	
Hue	Adjust to increase or decrease the green tones.	
Sharpness	Adjust to sharpen or soften the picture.	

Option	Description	
Color Temp *White intensity adjustment*	Choose from three color temperatures:	
	Cool	Select to give the white colors a blue tint.
	Neutral	Select to give the white colors a neutral tint.
	Warm	Select to give the white colors a red tint (NTSC-Standard).
VM *Velocity Modulation*	Sharpens picture definition to give every object a sharp, clean edge. Select from High, Medium, Low, Off.	
DRC Mode *Digital Reality Creation-Multi Function*	Creates a high-resolution picture with 4x density, for high quality sources (i.e., DVD player, Satellite receiver). Select from Interlaced or Progressive.	
	Interlaced	Recommended for moving pictures.
	Progressive	Recommended for still images and text.

Using the Audio Menu

To select the Audio Menu

1. Press MENU.
2. Move the joystick to the Audio icon and press ⊕.
3. Use the joystick to scroll through the options.
4. Press ⊕ to select an option. That option's settings appear.
5. Use the joystick to scroll through the settings.
6. Press ⊕ to select the desired setting.
7. Press MENU to exit the menu screen.

To restore the factory default settings for Treble, Bass, and Balance

❑ Press RESET on the remote control when in the Audio menu.

Selecting Audio Options

The Audio Menu includes the following options:

Option		Description
Treble	Adjust to increase or decrease higher-pitched sounds.	
Bass	Adjust to increase or decrease lower-pitched sounds.	
Balance	Adjust to emphasize left or right speaker balance.	
Steady Sound	ON	Select to stabilize the volume.
	OFF	Select to turn off Steady Sound.
Effect	SRS	Produces a dynamic three-dimensional sound for stereo signals.
	Simulated	Adds a surround-like effect to mono programs.
	OFF	Normal stereo or mono reception.

Option	Description	
MTS *Enjoy stereo, bilingual and mono programs*	Stereo	Select for stereo reception when viewing a program broadcast in stereo.
	Auto-SAP	Select to automatically switch the TV to second audio programs when a signal is received. (If no SAP signal is present, the TV remains in Stereo mode.)
	Mono	Select for mono reception. (Use to reduce noise during weak stereo broadcasts.)
Speaker	ON	Select to turn on the TV speakers.
	OFF	Select to turn off the TV speakers and listen to the TV's sound only through your external audio system speakers.
Audio Out *Easy control of volume adjustments*	This option can be set only when the Speaker option is set to OFF.	
	Variable	Sound output varies according to the TV settings. Useful when you want to use the TV's remote control to adjust the output through a separate audio system.
	Fixed	Sound output is held at a fixed level. Use your audio receiver's remote control to adjust the volume.

Using the Channel Menu

To select the Channel Menu

1. Press MENU.
2. Move the joystick to the Channel icon and press ⊕.
3. Use the joystick to scroll through the features.
4. Press ⊕ to select a feature. That feature's options appear.
5. Use the joystick to scroll through the options.
6. Press ⊕ to select the desired option.
7. Press MENU to exit the menu screen.

Selecting Channel Options

The Channel Menu includes the following options:

Option	Description	
Favorite Channel	1 Press ⊕ to select a favorite channel number. 2 Use the joystick to scroll through the channels until you find the channel you want to add to your favorites. 3 Press ⊕ to select it.	
Cable	ON	Select if you are receiving cable channels with a CATV cable.
	OFF	Select if you are using an antenna.
	✍ You should run Auto Program after changing the cable setting.	
Channel Fix *Useful when you have a cable box or satellite receiver connected*	2-6	"Fix" your TV's channel setting to 3 or 4 and use the cable box, VCR or satellite receiver to change channels. Select one of these settings if you have connected the device to the VHF/UHF jack.
	AUX 2-6	Same as 2-6, except you select one of these settings if you have connected the device to the AUX jack (see page 8).
	VIDEO 1	Use this setting if you have connected the device to the Audio and Video IN jacks.
Auto Program	Automatically programs the TV for all receivable channels from both VHF/UHF and AUX inputs.	

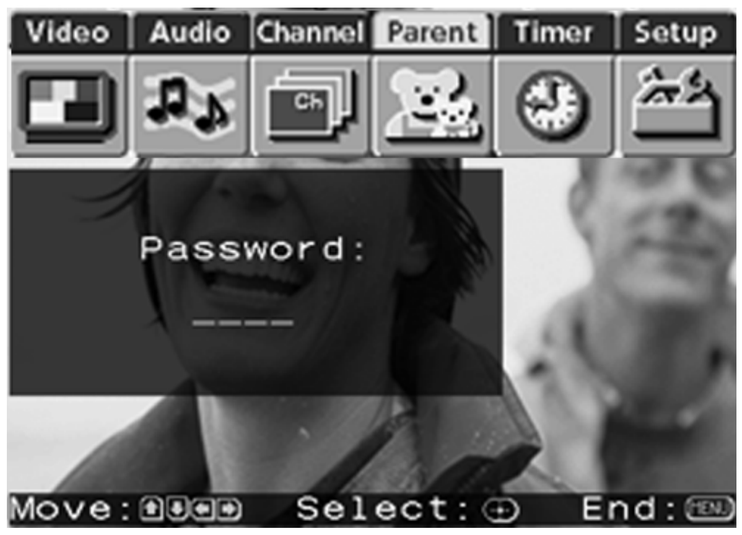
Option	Description
Channel Skip/Add	Removes and adds viewable channels. 1 Use the joystick to scroll through the channels until you find the channel you want to skip / add. 2 Press ⊙ to select it. 3 Press the joystick (⇧ / ⇩) to toggle between “Add” and “Skip.” 4 Press ⊙ to select.
Channel Label	Label up to 20 channels with their station call letters.

Using the Parent Menu

The Parent menu allows you to set up the TV to block programs according to their content and rating levels. These ratings are assigned by a federal rating board. Not all programs are rated. Using the Parental Lock blocks programs with a specific rating, but it does not block an entire channel.

To select the Parent Menu

1. Press MENU.
2. Move the joystick to the Parent icon and press ⊕.
3. Use the 0-9 buttons on the remote control to enter your four-digit password.
4. Confirm your password by entering it again. (The Parent menu options appear.)



5. Use the joystick to scroll through the settings.
6. Press ⊕ to select the desired option.
7. Press MENU to exit the menu screen.

✍ You need your password for any future access into the Parent menu. If you lose your password, see “Lost password” on page 56.

Using the Parent Menu

If you are not familiar with the Parental Guideline rating system, you should select Child, Youth, or Young Adult to help simplify the rating selection. To set more restrictive ratings, select Custom.

For descriptions of Child, Youth, and Young Adult ratings, see page 44.

The Parent menu includes the following options.

Option	Description	
Parental Lock *Turn ratings on/ off and select a rating system*	OFF	Parental lock is off. No programs are blocked from viewing.
	Child	Maximum ratings permitted are: ❏ US: TV-Y, TV-G, G ❏ Canada: TV-Y, C, G
	Youth	Maximum ratings permitted are: ❏ US: TV-PG, PG ❏ Canada: TV-PG, PG, 8 ans+
	Young Adult	Maximum ratings permitted are: ❏ US: TV-14, PG-13 ❏ Canada: TV-14, 14+, 13 ans+
	Custom	Select to set ratings manually. ❏ US: See page 44 for details. ❏ Canada: See page 45 for details.
Change Password	For changing your password.	

US Models: Selecting Custom Rating Options

For US models, the Custom Rating Menu includes the following options. (For Canadian models, see page 45.)

Option	Description	
Movie Rating	G	All children and General Audience.
	PG	Parental Guidance suggested.
	PG-13	Parental Guidance for children under 13.
	R	Restricted viewing, parental guidance is suggested for children under 17.
	NC-17 and X	No one 17 and under allowed.
TV Rating *Block programs by their rating, content or both*	Age-Based Options	
	TV-Y	All children.
	TV-Y7	Directed to older children.
	TV-G	General Audience.
	TV-PG	Parental Guidance suggested.
	TV-14	Parents Strongly cautioned.
	TV-MA	Mature Audience only.
	Content-Based Options	
	FV	Fantasy Violence.
	D	Suggestive Dialogue.
	L	Strong Language.
	S	Sexual situations.
	V	Violence.
Unrated *Block programs or movies that are broadcast without a rating*	Block	Blocks all programs and movies that are broadcast without a rating.
	Allow	Allows programs and movies that are broadcast without a rating.

The content ratings will increase depending on the level of the age-based rating. For example, a program with a TV-PG V (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain more intense violence.

To ensure maximum blocking capability, the age-based ratings should be blocked.

If you block unrated TV programs, be aware that the following types of programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs and weather.

Canadian Models: Selecting Custom Rating Options

For Canadian models, the Custom Rating Menu includes the following options. (For US models, see page 44.)

Option	Description	
English Rating	C	All children.
	C8+	Children 8 years and older.
	G	General programming.
	PG	Parental Guidance.
	14+	Viewers 14 and older.
	18+	Adult programming.
French Rating	G	General programming.
	8 ans+	Not recommended for young children.
	13 ans+	Not recommended for ages under 13.
	16 ans+	Not recommended for ages under 16.
	18 ans+	Programming restricted to adults.
USA Rating	See “US Models” on page 44 for details.	

Viewing Blocked Programs

You can view a blocked program by entering the password. Press the ENTER button when tuned to a blocked program. This temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the TV. When the TV is turned on again, your Parental Controls settings are reactivated.

Using the Timer Menu

To select the Timer menu

1. Press MENU.
2. Use the joystick to move to the Timer icon and press ⊕.

To set the Current Time

1. Use the joystick to select "Current Time", then press ⊕.
2. If it is currently Daylight Savings Time, be sure to set that mode to "ON". (Daylight Savings Time starts in the Spring and ends in the Fall.)
3. Use the joystick to enter the correct time, then press ⊕.
4. Press MENU to exit the menu screen.

To set the Timer

Before setting the timer, be sure to set your TV's clock to the current time (and, if appropriate, Daylight Savings Mode). To check the TV's time setting, press the DISPLAY button on the remote control.

1. Move the joystick to "Timer 1" or "Timer 2", then press ⊕.
2. Use the joystick to enter your date, time and channel preferences, then press ⊕ to select each one.
3. Press MENU to exit the menu screen.

To reset the Clock or Timers

❑ Press RESET on the remote control after selecting that option in the Timer menu. This resets to the factory defaults.

Selecting Timer Options

The Timer Menu includes the following options:

Option	*Description*	
Timer 1 Timer 2	Program	Select to set the Timer by day, time, duration, and channel.
	OFF	Select to turn off the Timer. (Your previous settings will be saved.)
Current Time	Set the current time.	
Daylight Savings	ON	Select in the spring to turn on this mode during Daylight Saving Time.
	OFF	Select in the fall to turn of this mode at the end of Daylight Saving Time.

Using the Setup Menu

To select the Setup Menu

1. Press MENU.
2. Use the joystick to move to the Setup icon and press ⊕.
3. Use the joystick to scroll through the features.
4. Press ⊕ to select a feature. (That feature's options appear.)
5. Use the joystick to scroll through the options.
6. Press ⊕ to select the desired option.
7. Press MENU to exit the menu screen.

Selecting Setup Options

The Setup Menu includes the following options:

Option	Description
Caption Vision	Allows you to select from three closed-caption modes (for programs that are broadcast with closed caption).
CC1, CC2, CC3, CC4	Displays a printed version of the dialog or sound effects of a program. (Should be set to CC1 for most programs.)
TEXT1, TEXT2, TEXT3, TEXT4	Displays network / station information presented using either half or the whole screen (if available). For closed captioning, set to CC1.
XDS (Extended Data Service)	Displays a network name, program name, program length, and time of the show (if the broadcaster offers this service).
OFF	Turns off Caption Vision.

(Continued on the next page)

(Continued from the previous page)

Option	Description
Video Label	Allows you to label the audio / video components you connected to the TV so you can identify them when using the TV/VIDEO button. When in the Setup menu's Video Label feature, use the joystick to highlight an input to label, then press ⊕ to select it. Use the joystick to scroll through the labels. Press ⊕ to select the component you connected to each of the input jacks on the back of your TV. Select "Skip" if you do not have a component connected to a particular set of input jacks.
VIDEO 1/2/3/4	VHS, 8mm, Beta, LD, Game, SAT, DVD, Web, Receiver, DTV, Skip
VIDEO 5/6	HD, DVD, DTV, Skip
	✍ If you select "Skip", your TV skips this connection when you press the TV/VIDEO button.
Tilt Correction	Allows you to correct any tilt of the picture.
Language	Select to display all on-screen menus in your language of choice.
16:9 Enhanced	Provides enhanced picture resolution for widescreen sources, such as selected DVD titles (only available when the TV is in VIDEO mode). Press TV/VIDEO and select from one of the following options:
AUTO	To activate automatically when a 16:9 signal is received.
ON	To activate manually.
Demo	Runs a demonstration of on-screen menus.

💡 To use this feature with widescreen DVDs, set your DVD player to 16:9 aspect ratio.

✍ AUTO/ON will appear when TV is in video mode 1-6.
ON/OFF will appear when TV is in VIDEO mode 5-6 and the 480p signal occurs.

Other Information

Overview

This chapter includes the following topics:

Topic	Page
Programming the Remote Control	50
Operating Other Equipment with Your TV Remote Control	53
Troubleshooting	55
Specifications	57
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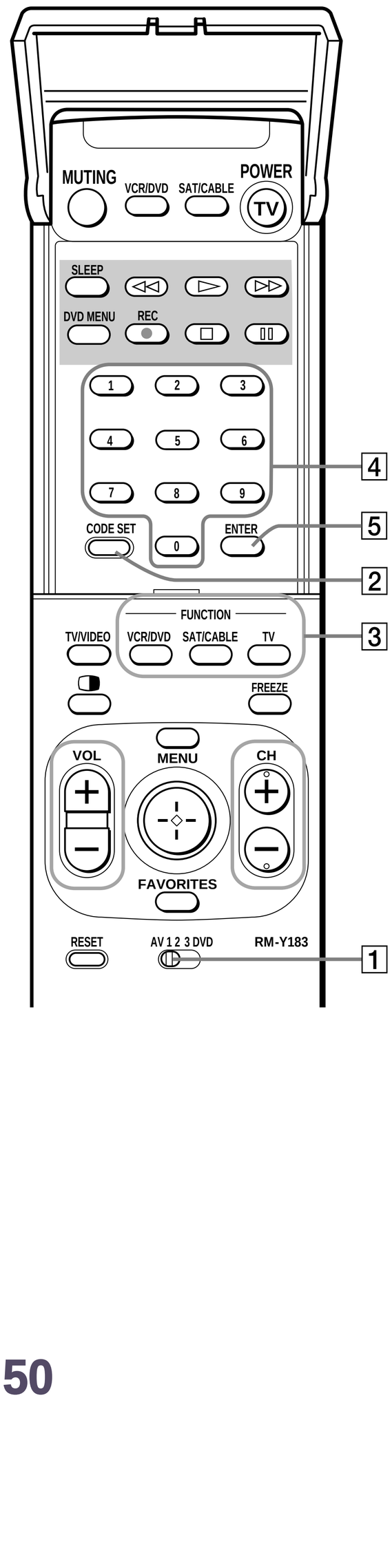
Programming the Remote Control

The remote control is preset to operate Sony brand video equipment.

Sony Equipment	*Switch Position on Remote Control*	*Programmable Code Number*
Beta, ED Beta VCRs	AV1	303
8 mm VCR	AV2	302
VHS VCR	AV3	301
DVD Player	DVD	751

If you have video equipment other than Sony brand that you want to control with the TV's remote control, use the following procedures to program the remote control.

✍ The equipment must have infrared (IR) remote capability in order to be used with the remote control.



From the "Manufacturer's Codes" listed on page 52, select the three-digit code number for the manufacturer's code for your component. If more than one code number is listed, start with the number listed first. Use the code number to complete the following procedure.

1 Move the slide switch to the desired component type (skip this step if you are programming a cable box or satellite receiver).

2 Press CODE SET.

✍ You must perform step 3 within 10 seconds of step 2, or you must start again from step 2.

3 Press the white function button for the type of component you want to control with the TV's remote control (VCR/DVD or SAT/CABLE).

4 Enter the three-digit manufacturer's code number.

5 Press ENTER.

6 To check if the code number works, aim the TV's remote control at the component and press the green POWER button that corresponds with that component. If it responds, you are done. If not, try using the other codes listed for that manufacturer.

Tips

- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some cases, you may not be able to operate your equipment with the Sony remote control. In such cases, use the equipment's own remote control unit.
- Whenever you remove the batteries to replace them, the code numbers may revert to the factory setting and must be reset.

Manufacturer's Codes

VCRs

Manufacturer	*Code*
Sony	301
Admiral (M. Ward)	327
Aiwa	338, 344
Audio Dynamic	314, 337
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	322, 339, 340
Goldstar	332
Hitachi	306, 304, 305,338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337, 345, 346, 347
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi / MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Optimus	327
Orion	317
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA / PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Shintom	315
Signature 2000 (M. Ward)	338, 327
SV2000	338
Sylvania	308, 309, 338, 310
Symphonic	338
Tashiro	332
Tatung	314, 336, 337
Teac	314. 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	314, 330, 336, 337
Zenith	331

Laserdisc Players

Manufacturer	*Code*
Sony	701
Panasonic	704, 710
Pioneer	702

DVD Players

Manufacturer	*Code*
Sony	751
GE	755
Hitachi	758
JVC	756
Magnavox	757
Mitsubishi	761
Oritron	759
Panasonic	753
Philips	757
Pioneer	752
RCA / PROSCAN	755
Samsung	758
Toshiba	754
Zenith	760

Cable Boxes

Manufacturer	*Code*
Sony	230
Hamlin / Regal	222, 223, 224, 225, 226
Jerrold / G. I.	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

Satellite Receivers

Manufacturer	*Code*
Sony	801
Dish Network	810
Echostar	810
General Electric	802
Hitachi	805
Hughes	804
Mitsubishi	809
Panasonic	803
RCA / PROSCAN	802, 808
Toshiba	806, 807

Operating Other Equipment with Your TV Remote Control

Operating a VCR

Move the slide switch to the AV input you coded for this device.

To Do This ...	Press
Turn on / off	VCR/DVD (green POWER button)
Select VCR	VCR/DVD (white FUNCTION button)
Change channels	CH +/-
Record	► and REC simultaneously.
Play	►
Stop	■
Fast forward	►►
Rewind the tape	◄◄
Pause	❚❚
Search the picture forward or backward	►► or ◄◄ during playback (release to resume normal playback)

Operating a DVD Player

Move the slide switch to the AV input you coded for this device.

To Do This ...	Press
Turn on / off	VCR/DVD (green POWER button)
Select DVD	VCR/DVD (white FUNCTION button)
Play	►
Stop	■
Pause	❚❚
Step through different tracks of an audio disc	►► to step forward or ◄◄ to step backward
Step through different chapters of a video disc	CH+ to step forward or CH- to step backward
Display the DVD menu	DVD MENU
Select tracks directly	0-9 buttons

Operating a Cable Box

To Do This ...	Press
Turn on / off	SAT/CABLE (green POWER button)
Select Cable Box	SAT/CABLE (white FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP

Operating a Satellite Receiver

To Do This ...	Press
Turn on / off	SAT/CABLE (green POWER button)
Select Satellite Receiver	SAT/CABLE (white FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP
Display channel number	DISPLAY
Display SAT guide	GUIDE
Display SAT menu	MENU
Move highlight (cursor)	Joystick or arrows
Select item	⊕ button

Operating an MDP (Laserdisc Player)

Move the slide switch to the AV input you coded for this device.

To Do This ...	Press
Turn on / off	VCR/DVD (green POWER button)
Select MDP	VCR/DVD (white FUNCTION button)
Play	►
Stop	■
Pause	❚❚
Search the picture forward or backward	►► or ◄◄ during playback (release to resume normal playback)
Search a chapter forward or backward	CH +/-

Troubleshooting

Problem	Possible Remedies
No picture (screen not lit), no sound	❑ If your TV does not turn on, and a red light keeps flashing, your TV may need service. Call your local Sony Service Center. ❑ Make sure the power cord is plugged in. ❑ Push the power button on the front of the TV. ❑ Check to see if the TV / VIDEO setting is correct: when watching TV, set to TV; when watching connected equipment, set to VIDEO 1, 2, 3, 4, 5 or 6, as appropriate. ❑ Try another channel; it could be station trouble.
Remote control does not operate	❑ Batteries could be weak. Check the batteries and replace as necessary. ❑ Press TV (FUNCTION) when operating your TV. ❑ Make sure the TV's power cord is connected securely to the wall outlet. ❑ Locate the TV at least 3-4 feet away from fluorescent lights. ❑ Check the orientation of the batteries.
Dark, poor or no picture (screen lit), good sound	❑ Adjust the Picture setting in the Video menu (see page 36). ❑ Adjust the Brightness setting in the Video menu (see page 36). ❑ Check antenna / cable connections.
Good picture, no sound	❑ Press MUTING so that "MUTING" disappears from the screen (see page 4). ❑ Make sure Speaker is set to ON in the Audio menu (see page 38).
Cannot receive upper channels (UHF) when using an antenna	❑ Change Cable to OFF (see page 40). ❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in memory (see page 40).
No color	❑ Adjust the Color settings in the Video menu (see page 36).
Only snow and noise appear on the screen	❑ Check the antenna / cable connections. ❑ Try another channel (it could be station trouble). ❑ Press ANT to change the input mode (see page 40).
Dotted lines or stripes	❑ Adjust the antenna. ❑ Move the TV away from noise sources such as cars, neon signs, or hair-dryers.
TV is fixed to one channel	❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 40). ❑ Check your Channel Fix settings (see page 40).
Double images or ghosts	❑ Use a highly directional outdoor antenna or a cable (if the problem is caused by reflections from nearby mountains or tall buildings).
Cannot operate menu	❑ If the item you want to choose appears in gray, you cannot select it.
Cannot receive any channels when using cable TV	❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 40). ❑ Check your cable settings. ❑ Make sure Cable is set to ON in the Channel menu (see page 40).

Problem	*Possible Remedies*
Cannot gain enough volume when using a cable box	❏ Increase the volume of the cable box using the cable box's remote control. Then press TV (FUNCTION) and adjust the TV's volume.
Cannot receive channels	❏ Use Auto Program in the Channel menu to add receivable TV channels that are not presently in TV memory (see page 40).
Unable to select a channel	❏ Use Auto Program in the Channel menu to add receivable TV channels that are not presently in TV memory (see page 40).
Lost password	❏ In the password screen (see page 42), enter the following master password: 4357. The master password clears your previous password; it cannot be used to temporarily unblock channels.
Cannot change channels with the remote control	❏ Be sure you have not inadvertently switched your TV from channel 3 or 4 setting if you are using another device to change channels. ❏ If you are using another device to control channels, be sure the "function" button for that device has been pressed.
Cannot cycle through the other video equipment connected to the TV	❏ Be sure the Video Label feature has not been set to Skip (see page 48).
There is a black box on the screen	❏ You have selected a text option in the Setup menu and no text is available. (See page 47 to reset Setup selections.) To turn this feature off, select OFF in the Caption Vision option. If you were trying to get closed captioning, select CC1 instead of Text 1-4.
There is no twin picture or it is just static	❏ Be sure your twin picture is set to a video source / channel that has a program airing. ❏ You may be tuned to a video input with nothing connected to it. Try cycling through your video inputs using the TV / VIDEO button. ❏ Twin View is not set to receive a signal from the AUX input. If you have connected a VCR or satellite receiver to the AUX input on the TV, it will not show in the second picture.
I get the same program in the window picture as in the main picture	❏ Both may be set to the same channel. Try changing channels in either the main picture or the window picture. ❏ You may be running all your channels through a cable box. The cable box will only unscramble one signal at a time, so you cannot use the Twin View feature. If possible, run a direct cable to your TV's VHF / UHF input. (This will only work if your cable system provides an unscrambled signal.)
I cannot get anything but TV channels in my second picture	❏ Be sure the video label has not been set to skip your video inputs. See the Setup menu on page 48.

If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Customer Information Services Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (Canadian residents only).

Specifications

All Models (General)		
Picture Tube	FD Trinitron® tube	
Antenna	75 ohm external terminal for VHF/UHF	
Television System	NTSC, American TV Standard	
Channel Coverage		
VHF	2-13	
UHF	14-69	
CATV	1-125	
Power Requirements	120V, 60 Hz	
Number of Inputs/Outputs		
Video (IN)	4	1 Vp-p, 75 ohms unbalanced, sync negative
S Video (IN)	3	Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p (Burst signal), 75 ohms
Audio (IN)	6	500 mVrms (100% modulation) Impedance: 47 kilohm
Audio (OUT)	1	More than 408 mVrms at the maximum volume setting (Variable) More than 408 mVrms (Fixed) Impedance (output): 2 kilohms
Monitor Out	1	1 Vp-p, 75 ohms unbalanced, sync negative
CONTROL S (IN/OUT)	1	
Component Video Input	2 (Y, P_B, P_R)	Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative; P_B: 0.7 Vp-p, 75 ohms P_R: 0.7 Vp-p, 75 ohms

KV-32HS20

Supplied Accessories	
Remote Control	RM-Y183
AA (R6) Batteries	2 supplied for remote control
Optional Accessories	
AV Cable	VMC-810/820/830 HG
Audio Cable	RKC-515HG
S-LINK Cable	RK-G69HG
Component Video Cable	VMC-10/30 HG
TV Stand	SU-32HS2
Visible Screen Size	32 in (812.8 mm) picture measured diagonally
Actual CRT Size	34 in (863.4 mm) picture measured diagonally
Speaker Output	15W x 2
Dimensions (W x H x D)	898.0 x 678.0 x 579.5 mm (35 3/8 x 26 3/4 x 27 7/8 in)
Mass	84 kg (185 lbs)
Power Consumption	
In Use	245 W
In Standby	2 W

KV-36HS20 and KV-36HS20H

Supplied Accessories	
Remote Control	RM-Y183
AA (R6) Batteries	2 supplied for remote control
Optional Accessories	
AV Cable	VMC-810/820/830 HG
Audio Cable	RKC-515HG
Component Video Cable	VMC-10/30 HG
TV Stand	SU-36HS2
Visible Screen Size	36 in (914 mm) picture measured diagonally
Actual CRT Size	38 in (965.2 mm) picture measured diagonally
Speaker Output	15W x 2
Dimensions (W x H x D)	994 x 754.5 x 622 mm (39 1/4 x 29 3/4 x 24 1/2 in)
Mass	108 kg (238 lbs)
Power Consumption	
In Use	245 W
In Standby	2 W

Design and specifications are subject to change without notice.

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